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PART A IONOSPHERIC DATA

ISSUED JULY 1960

U. S. DEPARTMENT OF COMMERCE NATIONAL BUREAU OF STANDARDS CENTRAL RADIO PROPAGATION LABORATORY BOULDER, COLORADO



CRPL-F 191 PART A

NATIONAL BUREAU OF STANDARDS CENTRAL RADIO PROPAGATION LABORATORY BOULDER, COLORADO

Issued 22 July 1960

IONOSPHERIC DATA

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SYMBOLS, TERMINOLOGY, CONVENTIONS

Beginning with data reported for January 1952, and continuing through December 1956, the symbols, terminology, and conventions for the determination of median values used in this report (CRPL-F series) conform as far as practicable to those adopted at the Sixth Meeting of the International Radio Consultative Committee (C.C.I.R.) in Geneva, 1951. Excerpts concerning symbols and terminology from Document No. 626-E of this Meeting are given on pages 2-7 of the report CRPL-F89, "Ionospheric Data," issued January 1952. Reprints of these pages are available upon request.

Beginning with data for January 1957, the symbols used are given in NBS Report 5033, "Summary of Changes in Ionospheric Vertical Soundings, Observing and Scaling Procedures - Effective 1 January 1957," which draws upon the First Report of the Special Committee on World-Wide Ionospheric Soundings (URSI/AGI), Brussels, Sept. 2, 1956. A list of these symbols is available upon request.

In the Second Report of the Special Committee on World-Wide Ionospheric Soundings of the URSI/AGI Committee, May 1957, a new descriptive letter was introduced:

M Measurement questionable because the ordinary and extraordinary components are not distinguishable.

There was an expansion in meaning of the following:

- Z (1) (qualifying letter) Measurement deduced from the third magnetoionic component.
 - (2) (descriptive letter) Third magnetoionic component present.

Beginning with data for January 1945, median values are published wherever possible. Where averages are reported, they are, at any hour, the average for all the days during the month for which numerical data exist.

The following conventions are used in determining the medians for hours when no measured values are given because of equipment limitations and ionospheric irregularities. Symbols used are those given above.

a. For all ionospheric characteristics:

Values missing because of A, C, F, H, L, N or R are omitted from the median count.

b. For critical frequencies and virtual heights:

Values of foF2 (and foE near sunrise and sunset) missing because of E are counted as equal to or less than the lower limit of the recorder. Values of h*F (and h*E near sunrise and sunset) missing for this reason are counted usually as equal to or greater than the median. Other characteristics missing because of E are omitted from the median count.

Values missing because of G are counted:

- 1. For foF2, as equal to or less than foF1.
- 2. For h'F2, as equal to or greater than the median.

The symbol W is included in the median count only when it replaces a height characteristic; the descriptive symbol D, only when it replaces a frequency characteristic.

Values missing for any other reason are omitted from the median count.

c. For MUF factor (M-factors):

Values missing because of G or W are counted as equal to or less than the median.

Values missing for any other reason are omitted from the median count.

d. For sporadic E (Es):

Values of fEs missing because of E or G are counted as equal to or less than the median foE, or equal to or less than the lower frequency limit of the recorder.

B for fEs is counted on the low side when there is a numerical value of a higher layer characteristic; otherwise it is omitted from the median count.

S for fEs is counted on the low side at night; during the day it is omitted from the median count (beginning with data for November 1957).

Values of fEs missing for any other reason, and values of h'Es missing for any reason at all are omitted from the median count.

Beginning with CRPL-F188, Part A, issued April 1960, the count is given for foF2 in the tables of medians. It is regretted that space limitations prevent including detailed counts for other characteristics.

To indicate further in a general manner the relative reliability of the data, for the F2 layer, h*F or foEs, if the count is from five to nine, or, for all layers, if more than half of the data used to compute the medians are doubtful (either doubtful or interpolated), the median is enclosed in parentheses. Medians are computed for less than five values for foF2 only.

Ordinarily, a blank space in the fEs or foEs column of a table is the result of the fact that a majority of the readings for the month are below the lower limit of the recorder or less than the corresponding values of foE. Blank spaces at the beginning and end of columns of h°F2 or h°F1, foF1, h°E, and foE are usually the result of diurnal variation in these characteristics. Complete absence of medians of h°F1 and foF1 is usually the result of seasonal effects.

There is no indication on the graphs of the relative reliability of the observed data; it is necessary to consult the tables for such information.

The tables may contain median values of either foEs or fEs. The graph of median Es corresponds to the table. Percentage curves of fEs are estimated from values of foEs when necessary.

The latest available information follows concerning the smoothed observed Zürich numbers beginning with the minimum of April 1954. Final numbers are listed through June 1959.

Smoothed	Observed	Sunspot	Number
----------	----------	---------	--------

Month	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1954				3	4	4	5	7	8	8	9	12
1955	14	16	19	23	29	35	40	•	55	64	73	81
1956	89	98	109	119	127	137	146	150	151	156	160	164
1957	170	172	174	181	186	188	191	194	197	200	201	200
1958	199	201	201	197	191	187	185	185	184	182	181	180
1959	179	177	174	169	165	161	156	151	145	140	136	132
1960												

WORLD - WIDE SOURCES OF IONOSPHERIC DATA

The ionospheric data given here in tables 1 to 72 and figures 1 to 144 were assembled by the Central Radio Propagation Laboratory for analysis and correlation, incidental to CRPL prediction of radio propagation conditions. The data are median values unless otherwise indicated. The following are the sources of the data in this issue:

Republica Argentina, Ministerio de Marina: Buenos Aires, Argentina La Quiaca, Argentina Trelew, Argentina Ushuaia, Argentina

Commonwealth of Australia, Ionospheric Prediction Service of the Commonwealth Observatory: Brisbane, Australia

Meteorological Service of the Belgian Congo and Ruanda-Urundi:
Bunia, Belgian Congo
Elisabethville, Belgian Congo
Leopoldville, Belgian Congo

Belgian Royal Meteorological Institute:
Lwiro (Central African Institute for Scientific Research)

British Department of Scientific and Industrial Research, Radio Research Board:

Falkland Is.
Ibadan, Nigeria (University College of Ibadan)
Inverness, Scotland
Port Lockroy
Singapore, British Malaya
Slough, England

Defence Research Board, Canada: Alert, Canada Resolute Bay, Canada Victoria, Canada

Radio Wave Research Laboratories, National Taiwan University, Taipeh, Formosa, China: Formosa, China

Danish National Committee of URSI: Narsarssuak, Greenland General Direction of Posts and Telegraphs, Helsinki, Finland: Nurmijarvi, Finland

The Finnish Academy of Sciences and Letters: Sodankyla, Finland

The Royal Metherlands Meteorological Institute:
De Pilt, Holland

Central Institute of Meteorology, Budapest, Hungary: Budapest, Hungary

Indian Council of Scientific and Industrial Research, Radio Research Committee, New Delhi. India:

Ahmedabad (Physical Research Laboratory)

Bombay (All India Radio)

Calcutta (Institute of Radio Physics and Electronics)

Delhi (All India Radio)

Kodaikanal (India Meteorological Department)

Madras (All India Radio) Tiruchy (All India Radio) Trivandrum (All India Radio)

General Directorate of Telecommunications, Mexico: El Cerillo, Mexico

Telecommunication Administration, Oslo, Norway: Svalbard, Norway

Institute of Terrestrial Magnetism, Ionosphere and Radio Propagation, Moscow, U.S.S.R.:

Moscow

Providenie Bay Simferopol

Research Institute of National Defence, Stockholm, Sweden: Lycksele, Sweden Upsala, Sweden

Royal Board of Swedish Telegraphs, Radio Department, Stockholm, Sweden: Lulea, Sweden

United States Army Signal Corps:
Grand Bahama I.
Okinawa I.
Thule, Greenland
White Sands, New Mexico

National Bureau of Standards (Central Radio Propagation Laboratory):
Byrd Station, Antarctica
Huancayo, Peru (Instituto Geofisico de Huancayo)
Pole Station, Antarctica
Talara, Peru (Instituto Geofisico de Huancayo)
Washington, D. C.

Reduction of hourly ionospheric vertical soundings to electron density profiles has become a part of the systematic ionospheric data program of the Central Radio Propagation Laboratory, National Bureau of Standards. Scalings of ionograms for this purpose are being provided by ionosphere stations operated by CRPL and the U. S. Army Signal Corps. For the present, the hourly profile data from one CRPL station, Puerto Rico, are appearing in the monthly CRPL-F Reports, Part A. These data are in place of the standard ionogram reductions formerly provided by this Station. The very considerable task of scaling the ionograms for this purpose is being undertaken by T. R. Gilliland, Engineer in Charge, Puerto Rico Ionosphere Sounding Station; the computations are performed at the NBS Boulder Laboratories by a group headed by J. W. Wright. Basic conversion of virtual to true heights uses the well-known matrix method developed by K. G. Budden of the Cavendish Laboratory, Cambridge University, programmed for an IBM 704 computer.

The tabulations provide the following basic electron density profile data for each hour of each day of the month:

Quantity	<u>Units</u>	Remarks
Electron Density (N)	$x10^3 = electrons/cm^3$	Body of table; given at each 10 km of height.
NMAX	$x10^3 = electrons/cm^3$	Always the highest value of N at each hour. To maintain this rule, the electron density at the next 10 km increment above HMAX is always given as exactly equal to NMAX (unless HMAX coincides with a 10 km level).
QUALification	(Alphabetic)	A standard scaling letter qualifying the observation when necessary.
HMIN	Kilometers	The height of zero or very low electron density, obtained by linear extrapolation of the electron density vs. height curve.
SCAT	Kilometers	One half of the half-thickness of the parabola best fitting the upper portion of the F region profile. Approximates the scale height near the level HMAX.
нмах	Kilometers	The height of maximum electron density, determined by fitting a parabola to the upper portion of the profile.
SHMAX	$x10^{10} = \frac{\text{electrons/cm}^2}{\text{column.}}$	Obtained by integration of the profile between the limits HMIN and HMAX.

Tabulations of the average electron densities each hour, at each 10 km level, for the quiet ionosphere, are also given. These averages include the profiles obtained when the magnetic character figure Kp is less than 4+. The number of profiles entering the average for each hour is given by CNT. The other parameters of the layer, HMIN, SCAT, HMAX, SHMAX, are averaged in a similar way.

Before the averaging process, the individual profiles are extrapolated above HMAX by a Chapman distribution of 100 km scale height. This assumed model seems to agree well with the few published measurements dealing with the topside profile of the F-region.* Extrapolation is necessary in order to calculate homogeneous averages near HMAX and the average profiles are, in fact, given up to 950 km. Also given are the average estimated integrated electron densities to infinity, SHINF (same units as SHMAX); this is an approximation to the total electron content in a column of the ionosphere.

^{*}See Wright, J.W. "A Model of the F-Region Above HMAX F2" J.Geophys.Res. V.65 pp 185-191.

		EL	ECTRO	ON OE	NSITY										E	ECTP	ON OE	NSITY					
PUERTO RI	2100			60 W				1	MAR	1960		PUERT	RIC	0			60 W				1	MAR	1960
TIME 0000 010	00 0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
SCAT 53.9 51. HMAXF 355 34 51. HMAXF 355 34 51. KM 400 390 380 370 360 844 61 350 842 64 330 799 64 330 795 310 697 45 310 697 45 310 697 49 320 754 55 310 697 49 320 320 320 320 320	379 378 379 378 378 378 379 378 379 378 379 379 379 379 379 379 379 379	917 915 895 849 7849 672 508 286 120 44•4	329 328 313 2825	394 211 156 156 155 154 148 143 138 125 117 108 289.8 80.8 764.3 56.6 49.6 442.9 30.6	208 208 206 201 195 187 167 153 137 119 101 83.8 69.1 57.0 46.7 34.4	323 319 500 500 475 448 414 367 367 329 83 88	294 877 1143 1141 1117 1068 994 885 754	277 1142 1612 1600 1549 1455 1341 1143 932 250 250 250 168 145 145	5 5	108 5340 310 1829 2096 2096 2096 2097 2021 1782 1181 1629 1422 217 376 443 376 227 229 196 178 181 178 181 178 181 181 181 181 181	GUAL HMIN SCAT HMAXF SHMAX KM 410 400 3800 3800 3770 3600 3500 3200 2900 2800 2700 2600 2700 2600 2700 2600 2700 2600 2700 2600 2700 2600 2700 2600 2700 2600 2700 2600 2700 2600 2700 27	A	A	\$ 10.9	A	A 0 64.9 341 2212 2161 2160 2145 2104 2037 11517 1341 349 302 260 219 1162 163 389 216 164 33.8 349 302 219 116 164 33.8 34 34 34 34 34 34 34 34 34 34 34 34 34	A	335 1504 2128 2123 2087 2010 1907 1758 1578 1356 1074 716 389	1861 1859 1859 1855 1752 1637 1483 1294 1067 754 362	70.3 343 1014 1050 1049 1040 1021 9899 838 690 608 508 411	49.6 345 636 875 873 855 764 695 695 613 417 319 143 86.2 86.2	352 538 679 679 670 650 615 73 516 454 382 310 246 179 127 860 60 60 60 60 60 60 60 60 60 60 60 60 6	64.4 401 579 652 652 647 635 550 508 450 389 319 251 183

TIME 0000 0100 0200 0300 0400 0500 0600 0700 0800 0900 1000 1100 TIME 1200 1300 1400 1500 1600 1700 1800 1900 2000 2100 2200 2300 OUAL A HMIN 287 268 240 208 204 199 201 193 113 107 106 107 SCAT 5641 44-5 37-8 30-6 37-2 91-6 72-4 40-6 30-5 44-3 48-9 55-0 5 SCAT 5641 44-5 37-8 30-6 37-2 91-6 72-4 40-6 30-5 44-3 48-9 55-0 5 SCAT 5641 44-5 37-8 30-6 37-2 91-6 72-4 40-6 30-5 44-3 48-9 55-0 5 SCAT 5641 44-5 37-8 30-6 37-2 91-6 72-4 40-6 30-5 44-3 48-9 55-0 5 SCAT 5641 44-5 37-8 30-6 37-2 91-6 72-4 40-6 30-5 44-3 48-9 55-0 5 SCAT 5641 44-5 37-8 30-6 37-2 91-6 72-4 40-6 30-5 44-3 48-9 55-0 5 SCAT 5641 44-5 37-8 30-6 37-2 91-6 72-4 40-6 30-5 5 HMAXF 422 387 324 266 273 351 359 301 273 272 291 304 HMAKF 422 387 324 266 273 351 359 301 273 272 291 304 HMAKF 328 316 330 320 335 330 343 306 309 347 386 38-5 HMAXF 420 661	ELEC	CTRON DENSITY		ELECTRON DENSITY	
OUAL A HMIN 287 268 240 208 204 199 201 193 11 107 106 107 5CAT 561 44-5 37-8 30-6 37-2 91-6 72-4 46-6 39-5 44-3 48-9 55-0 5CAT 561 44-5 37-8 37-8 30-6 37-2 91-6 72-4 46-6 39-5 44-3 48-9 55-0 5CAT 561 44-5 37-8 37-8 30-6 37-2 91-6 72-4 46-6 39-5 44-3 48-9 55-0 5CAT 561 44-5 37-8 37-8 30-6 37-2 91-6 72-4 46-6 39-5 44-3 48-9 55-0 5CAT 63-3 57-4 61-3 60-7 56-6 48-8 50-4 50-4 54-7 48-5 48-8 48-8 48-7 56-1 48-8 57-8 48-8 57-8 48-8 58-8 48-8 48-8 48-8 48-8 48-8 48	PUERTO RICO	60 W	2 MAR 1960	PUERTO RICO 60 W	2 MAR 1960
Milk 108 109 107 107 111 111 299 201 183 178 256 286 246 248 240 248 240 248 240 248 240 248 240 248 240 248 240 248 240 248 240 248 240 248 240 248 240	TIME 0000 0100 0200 0300 04	400 0500 0600 0700 0800	0900 1000 1100 TIME	IME 1200 1300 1400 1500 1600 1700 1800 1900 2000	2100 2200 2300
230 573 224 119 60.0 198 834 1267 1050 1096 190 502 477 446 431 371 303 56.7 52.5 220 219 136 97.2 46.5 124 643 1068 858 902 180 430 408 389 362 313 245 12.4 210 40.2 60.0 69.0 26.8 74.5 477 861 695 734 170 373 356 344 310 267 202 200 12.4 41.8 346 661 558 601 160 328 312 301 266 227 168 190 254 477 456 500 150 289 273 262 224 191 141 180 191 362 378 423 140 253 237 223 187 159 120 170 146 286 310 365 130 219 207 191 160 140 108 160 117 233 251 320 126 227 168 160 191 17 233 251 320 126 227 168 170 170 170 170 170 170 170 170 170 170	OUAL HMIN 287 268 240 208 2 2 2 2 8 2 2 2 8 2 3 2 8 2 3 2 8 2 4 2 6 6 2 2 4 2 2 8 2 3 2 8 2 3 2 8 2 3 2 8 2 3 2 8 2 3 2 3	214 219 327 772 214 219 327 772 214 219 327 772 214 219 327 772 214 219 327 772 214 218 213 215 211 210 208 203 203 193 516 187 182 516 208 203 203 193 516 189 169 508 345 172 135 489 1228 354 172 135 489 1228 343 161 115 417 1192 288 135 77.0 286 1004 281 13	0UAL 107 106 107 HM1N 1443 4849 5540 SCAT 272 291 304 HMAN 1149 1373 1764 SHMAX 149 1373 1764 SHMAX 150 300 300 300 300 300 300 300 300 300 30	NAL MIN 108 109 107 107 111 111 239 201 183 SCAT 63,3 57,4 61,3 60,1 67,3 60,7 56,6 48,8 50,4 KAF 328 316 330 329 335 330 343 306 309 MAX 2206 2223 2270 2287 2175 1903 1534 1170 860 KM 390 380 380 380 380 380 380 380 380 380 38	178 256 245 54.47 48.45 48.2 34.7 38.6 38.1 600 461 507 64.2 716 64.0 716 62.5 70.7 59.3 68.2 67.6 49.7 58.6 66.2 431 51.7 63.5 36.2 436 66.2 431 51.7 63.5 36.2 436 67.6 49.7 58.6 62.4 43.1 51.7 63.5 36.2 436 62.4 43.1 51.7 63.5 36.2 436 62.4 43.1 51.7 63.5 36.2 436 62.4 43.1 51.7 63.5 36.2 436 62.4 43.1 51.7 63.5 36.2 436 62.4 43.1 51.7 63.5 36.2 436 62.4 43.1 53.4 62.2 43.1 53.4 62.3 63.1 53.4 62.3 63.1 53.4 63.4 63.4 53

 CCTDON	AFNE	TTV

ELECTRON DENSITY

	PUERTO	O RIC	0			60 W				3	MAR	1960		PUERTO	RIC	0			60 W				3	MAR	1960
TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
OUAL HMIN SCAT HMAXE	269 53•6 383	42.7	237 44•2 321	228 40.0 316	287	77.7 381	343	48.2	283	290	47 a 1 288	299	QUAL HMEN SCAT HMAXF	54 • 1 310	53.9 321	62 o 4 331	52.7 318	62.7 318	344	62.0 346	52 • 3 329	58.8 313	365	43 · 4 347	44.6 336
SHMAX KM 390	529 735	478	457	368	297	414 375	359	359	857	1294	1488	1880	SHMAX KM 370	2074	2237	2444	2125	1973	2059	1634	1393	1106	825	609	483
380 370	735 725					375 373 368							360 350 340			2465			2000	1969			833 824 807	917 912	784
360 350 340	702 666 619	784				360 348	446 446						330 320		2430	2465 2447			1978 1936	1935 1881	2018		782 748	883 825	780 758
330 320 310	556 477 389	754 696 625	834 834 821	688		335 318 297	441 429 409						310 300 290	2290 2229	2337 2223	2397 2315 2203	2356 2247	2055 1995	1786 1676	1696 1566	1879 1752	1402 1365	706 657 597	754 671 573	716 654 573
300 290 280	293 188 8348	540 417 286	788 737 653	662 617 552	599 594	274 248 220	384 350 310			1727 1727 1703			280 270 260	1992	1881	2060 1878 1669	1907	1800	1401	1202		1230	528 456 380	477 356 233	468 362 233
270 260 250	12.4	179 97•2 49•6	522 362 179	460 346 198	573 540 469	190 161 129	265 216 169	477	1110	1638 1527 1376	1728	1975	250 240 230		1197	1446 1205 1004	1209	1293	898	701 457 279		1004 861 697		133 74.8 41.9	63.3
240 230		47,00		92.7	362 219	102	124 83.8	342 257 161		1175 960		1483	220 210 200	933 754 608	814 679 573	812 665	794 629 508	834 643 437	573 455	152 80 • 3 36 • 2	1244	508 286	105 68.8 45.6		
220 210 200					0387		17.7		477 362	591 464	794 608	716 573	190 180	499 424	488	460 389	417 354	380 314	286	3002		24.6			
190 190 170									267 198 150	373 310 255	468 372 310	477 403 347	170 160 150	369 326 289	365 319 281	262	307 262 215	27? 235 194	168 132 109						
160 150 140									119 102 88.1		254 208 173	302 262 224	140 130 120	256 219 190	247 214 189	219 187 169	178 159 150	141	96.4 91.6 86.7						
130 120 110									79.7 73.9		157 149	189	110	127	143			97.2							

				E	LECTR	ON OE	NSITY										E	LECTR	ON OE	YSITY					
	PUERT	O RICO)			60 W				4	MAR	1960		PUERT	O RIC)			60 W				4	MAR	1960
TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
OUAL			J	A			Α				А		OUAL			S									
HMIN	228	249	219			176		198				109	HMIN		109				110				198	251	214
SCAT	53.2	39.2	28.4			85.6	63.9	36.7	31.1	55.5		54.5	SCAT	47×1	53.4	48 . 6	60.7	57.6	66.3	52.2	53.6	52.9	58.3	48.5	59.7
HMAXE	341	339	293	256	261	365	345	278	262	277		314	HMAXE	301	325	315	334	322	331	326	325	308	372	360	346
SHMAX	474	337	303	274	142	213	181	242	626	994		1939	SHMAX	1796	2151	2062	2384	2093	2161	1485	1329	798	707	581	649
KM													KM												
370						174							380										784		
360						174							370										784	906	
350	670					173	189						360										776	906	
340	670	625				171	188						350										756	896	824
330	663	617				167	186						340				2396		2161				725	865	822
320	644	586				162	181					2144	330		2294				2160				682	817	809
310	613	540				155	173					2141	320						2145				628	748	785
300	570	466	754			147	163					2109	310						2104				566	650	749
290	516	375	752			139	151					2041	300	2193	2168	2373	2212	2209	2039	1907	1801	1112	501	528	704
280	446	274	712			129	138	492		1191		1937	290	2163	2043	2268	2086	2109	1947	1797	1700	1085	432	389	643
270	357	161	624		323	119	123	487	1131	1186		1798	280						1833			1037	362	231	562
260	269	71+4	494	608	323	109	108	463	1130	1163		1615	270						1695			971	300	118	467
250	169	12.4	335	603	314	98.5	92.5	425	1091	1121		1408	260	1768	1486	1669	1537	1636	1538	1221	1143	884	240	60.0	355
240	78.6		161	573	291	88.2	78 . 4	362	994	1060		1191	250	1555	1272	1408	1341	1446	1361	960	875	775	189		246
230	21.7		71.4	525	253	77.9	66.0	274	846	978		980	240	1341	1082	1163	1126	1223	1143	679	573	643	140		153
220			12.4	432	191	67.6	55.3	179	665	875		803	230	1114	900	947	941	960	960	477	310	497	104		79.0
210				310	116	57.3	46.1	83.8	493	754		655	220	898	754	765	774	754	764	310	97.2	335	73.3		40.2
200				161	60.0	47.1	34.5	23.7	362	608		540	210	716	628	618	633	592	608	179		173	49.6		
190				65.6	12.4	34.0	14.4		262	465		451	200	573	535	513	523	467	477	87.8		71.4	12.4		
180						10.0			194	349		389	190	468	464	440	440	378	377	40.2		12.4			
170									143	275		335	180	395	405	385	373	310	294						
160									112	222		296	170	345	356	341	321	262	224						
150									96.6	161		259	160	304	315	304	279	219	179						
140									91.8	150		229	150	267	275	269	243	182	148						
130									87.1	127		198	140	230	236	235	210	156	126						
120									7409	119		173	130	198	203	205	184	141	111						
110										97.2		112	120	186	188	187	167	133	103						
													110	112	143	127	40.6	83.8	40.4						

				E L	ECTRO	N DE	ISITY											E	ECTR	ON DE	NSITY					
	PUERTO	RICO)			60 W				5	MAR	1960		1	PUERTO	RIC)			60 W				5	MAR	1960
TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100		T1ME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
OUAL HMIN SCAT HMAXF SHMAX 80 350 350 340 350 320 220 220 220 220 210 200 180 170 160 140 120	A 205 48.88 320 459 679 671 649 614 562 439 439 439 439 436 2	328 402 557 553 540 518 488 446 389 322 251 173 57•9	524 522 509 482 441 389 3252 179	239 47°1 336 299 477 475 463 440 406 362 362 377 577 572 473	328 257 417 414 402 381 353 3157 187 112 26.8	367 308 335 334 329 306 288 265 240 213 181 122 95•6	248 55*6 378 298 389 377 378 364 318 282 240 139 44*7 8*0	208 34.8 270 301 707 707 707 693 649 573 449.6	A	A	1922 1914 1867 1776 1649	1922 1910 1786 1663 1786 1507 1341 11217 716 573 401 344 297 256 217 185	H	OUAL HMIN MAKE HMAN MAKE HMAN MAKE HMAN MAKE HMAN MAKE HMAN MAKE MAKE MAKE MAKE MAKE MAKE MAKE MAKE	2465 2465 2465 2465 2465 2466 2443 3176 262 243 1907 1408 1156 624 446 343 343 343 343 343 343 343 343 34	S	321 2128 2294 2293 2269 2207 2106 1974 1798 1596	325 2101 2277 2273 2236 2236 1496 1496 1496 1496 498 424 424 365 316 272 230 194 166 1166	2210 22203 2151 2041 11341 1116 917 739 477 322 2271 198 198 148 148	320 1979 2327 2327 2308 2151 2013 1625 1393 1122 887 679 5207 171 1143 122 109	58 • 0 332 1698 2361 2361 2338 2280 2186 2063 1907 1669 1404 1050	2063 2054 1989 1416	1072 1069 1048 1004 941 864 769 667 561	804 800 782 747 697 634 559 477 379 278 187	238 303 373 525 716 716 679 643 585 521 446 362 278 819 127	726 724 710 679 573 495 395 293 179

				EL	ECTR	ON DE	4SITY										EI	LECTR	ON DE	MSITY					
	PUERT	RIC)			60 W				6	MAR	1960		PUERTO	RIC)			60 W				6	MAR	1960
TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100) TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
OUAL HMIN SCAT HMAXF SHMAXF SHMAXF 3700 3500 3200 2900 2200 2200 2200 2200 1900 1900 1	237 57°3 361 479 634 628 612 508 446 370 286 204 117 63°3	228 51.4 352 486	238 41 • 7 334 355 625 624 608 573 524 452 362 262 143 71 • 4	597 209 37.7 291 333 697 684 684 647 584 477 310 161 71.4 12.4	189 31.0 256 184 446 442 417 370 286	188 89.8 352 249 214 214 210 207 202 195 188 181 171 159 144 127 110 91.1 750.8	225 56.88 357 132 161 160 151 143 132 132 132 137 49.6 36.8 12.4	208 40°2 297 280 532 528 508 477 417 329 219 127 64°8 12°4	1100 49.8 277 780 1027 1022 999 954 417 317 240 185 147 147	110 47°11 284 1194 1555 1552 1453 1359 920 4055 858 8679 920 4056 2179 179 179	А	A	- 1112	A	108 50.7 315 1817 1969 1964 1927 1843 1732 1584 1414 1240	108 48.4 316 1936 2294 2284 2230 2122 1970 1772 1555 1306 1036	2310 2297 2251 2274 2063 1925 1746 1540 1324 1063	A 107 63-7 322 2097 2161 2160 2142 2098 1922 1192 1192 1192 1192 1192 1192 11	112 55.8 318 1802 2096 2086 2043 1967 1853 1710 1537 1341 1096	222 37.68 305 1018 2000 1992 1924 1786 1578 1314	206 55.4 317 1275 1786 1770 1746 1683 1594 1478 1317	189 57.2 321 969 1228 1228 1217 1074 988 1143 1074 988 495 643 495	180 53.6 329 647 784 7759 723 676 620 557 488 417 277 210 143 92.2	231	247 57.8 369 519 697 693 678 653 618 573 508 423 326 219 127 60.0

	ELECTRON DENSITY			ELECTRON DENSITY	
PUERTO RICO	60 W	7 MAP 1960	PUERTO RICO	60 W	7 MAR 1960
TIME 0000 0100 0200	0300 0400 0500 0600 070	00 0800 0900 1000 1100 TIME	1200 1300 1400	1500 1600 1700 1800 1900 2000	2100 2200 2300
SCAT 52.3 50.1 40.5 HMAXF 338 355 324 SHMAX 377 330 253 KM	244 223 228 233 23 57.6 57.5 47.5 45.6 41. 348 343 330 338 30 307 271 203 199 33	.4 46.5 49.4 47.8 49.5 SCAT 00 269 288 292 296 HMAXE	107 107 108 44.2 54.3 54.9 6 286 309 315 1659 1989 2059 2	109 108 108 208 200 199 109 50,1 56,8 57,1 42,0 53,4 323 314 309 328 307 317 2123 1854 1725 1423 985 1001	9 197 213 226 • 51.9 57.5 50.3 7 317 344 340 1 736 662 532
360 477 350 475 340 573 466 320 577 446 446 320 557 417 445 310 522 380 432 300 498 331 405 220 454 274 366 280 389 214 310 270 299 151 244 260 198 894 173 250 9712 46*3 107 240 44*4 56*2 220 210 200 190 180 170 160 150 140	112 161 147 101 50 49.6 112 106 65.0 40 71.4 60.0 40.2 21	340 330 320 310 311 31 31 30 31 31 30 31 31 30 31 31 30 31 31 30 31 31 31 31 31 31 31 31 31 31 31 31 31	2294 2 2193 2288 2 2180 2249 2 2180 2249 2 2152 2042 2053 1 2093 1918 1907 1 1799 1757 1710 1 1799 1555 1496 1 1596 1341 1277 1 1368 1143 1016 1 1143 930 110 1 892 754 643 1 691 623 528 1 540 518 446 4 435 437 386 3 375 379 33 310 2 291 296 258 296 298 298 298 298 298 298 298 298 298 298	2105 2223 2032 1858 1669 1400 2054 2182 2020 1790 1656 1370 1968 7086 1977 1689 1509 1315 1861 1958 1907 1567 1491 1.35 1726 1786 1796 1408 1341 1132 1571 1599 1660 1203 1143 995 1404 1364 1488 945 917 894 1625 1050 417 189 434 883 679 808 143 198 340 741 540 608 2942 8348 9742 614 438 446 503 369 335 411 315 254 335 269 203 240 198 134 240 198 134 200 169 114 179 143 107	0 1043 739 670 998 674 596 935 586 499 846 477 389 716 374 269 573 262 143 417 150 71.4 271 81.2 27.5

				E	LECTR	ON DE	NSITY										E	LECTR	ON DE	MSITY					
	PUERT	RIC	0			60 W				8	MAR	1960		PUERT	ORIC	0			60 W				8	MAR	1960
TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
OUAL HMIN SCAT HMAXF SHMAX KM	41.8	36 e 1 320		46.6 325	49.7 397	51.8 384	47.2 331	199 41.0 275 320	38,4 263	44.9 285	48.7 284	50.1 301	QUAL HM1N SCAT HMAXF SHMAX KM	54.8 307	52e1 307	50 • 2 306	57.4 324	54.6 318	55.8 325	230 51+1 330 1313	43.6	301	188 64.0 343 777		48.1 337
400 3900 3800 3700 3400 3200 3200 2700 2500 2400 2500 2200 1900 1100 1600 1500	679 668 636 588 516 424 316 198 105 46 +2		540 531 510 479 430 362 280	358 320 271 214 153 92•8	351 335 312 281 245 204 161 117 81.8 51.6	51.9 17.5	469 469 463 446 417 380 332 2207 138 75•3	632 614 576 520	1071 1038	1469 1432 1359 1249 1096 937 775 629 508 417 349 290 240 198	1626 1623 1593 1524 11431 1143 949 754 595 470 389 389 3275 234	1879 1786 1641 1467 1271	360 350 340 330 320 310 300 290 280 250 240 230 220 210 200 190 160 170 160 150 140 130 120 110	2251 2206 2119 2004 1846 1641 1418	2282 2230 2132 2000 1818 1598 1365 1108 901 727 595 491 417 362 316 277 233 193 173	1931 1879 1792 1679 1535 1370 1177 995 688 573 477 406 296 255 216 182 169	1877 1820 1726 1610 1475 1325 1180 1028 875 740 624 436 362 299 250 211 176 158	1969 1958 1915 1828 1719 1585 1428 1253 1050 8755 724 591 485 326 227 192 164 143	2028 1996 1932 1826 1698 1543 1371 1171 9600 776 608 492 396 320 259 208 168 138 117	2032 2032 2013 1955 1853 1720 1555 1317 960 673 179	1781 1735 1639 1502 1316 1084 917 508 262 112	1473 1450 1388 1288	758 706 648 580 502 417 335 262 190	814 808 789 754 710 650 650 382 286 119 66.6 31.4	726 722 703 667 619 548 452 348 247 138
130 120 110										142 131 9742		189 171 143													

				Εl	ECTR	ON OE	YTIEN										Εŧ	ECTRO	4 0E	NSITY					
	PUERT	D RIC)			60 W				9	MAR	1960		PUERT	O RIC	0			50 W				9	MAR	1960
TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	TIME	1200	1300	1400	1500	1600	700	1800	1900	2000	2100	2200	2300
TIME OUAL HMIN SCAT HMAXF SHMAX 390 380 370 360 350 340 200 200 200 200 200 200 180 150 140 150 140 120 110	220 51.6 341 461 661 664 634 602 560 501 417 335 235	226 50.6 345 368 524 523 513 461 421 371 240 170 102 60.0	258	248 48.66 350 320 492 487 470 440 9359 299 2932 153 75.1 21.2	228 56.4 357 337 432 430 432 406 384 356 3275 224 177 132 83.8	221 61.3 350 362 446 444 435 435 399 373 340 245 189 133.8	238 57•3 360 349 454 454 451 423 399 369 282 228 167 108 60•0	206 48.0 294 499 875 874 857 822 771	1100 49.55 281 850 1131 1131 1117 1080 937 679 508 3937 679 508 229 147 122 147 122 147 122 147 124 147 147 147 147 147 147 147 147 147 14	110 61.00 3000 1398 1528 1518 1518 1020 703 3355 268 219 177	1786 1786 1786 1768 1716 1716 1714 1713 1714 1714 1714 1714 1714 1714	111 51.4 302 1983 2379 2378 2378 2271 2149 1985 1773 1539 1300 1036	OUAL HMIN SCAT HMAKF SHMAX 300 310 310 320 320 320 320 220 220 240 250 240 220 210 200 100 110	1099 48.8 2991 1848 22277 2207 2135 2023 1864 6199 976 784 626 508 429 3688 324 2286 245 203 184	109 53.1 312 1843 2032 2031 2006 1945 1843 1712 1555 1341	109 64.33 331 2118 2032 2031 1820 1976 1971 1820 17570 1408 462 3976 208 17570 1688 112	109 52.8 318 1813 2032 2020 1972 1886 1769 1610 1424 1218	c	\$ 110 54.7 316 1800 2161 1155 2116 2042 7786 598	240	193 52.5 313 1146 1583 1582 1558 1420 1310 417 630 430 4208	192 45.0 306 632 982 978 947 894 725 608 483 348 229	197 62.7 362 634 697 691 676 652 617 526 466 401 335 276 219 158 112 76.4	243 56.3 382 526 661 661 653 608 569 519 459 316 247 172 172 112 71.4	232 54.5 361 496 679 679 673 655 624 585 372 286 189

				Ei	ECTR	ON DE	NSITY										Ε	LECTI	RON DE	NSITY					
	PUERT	O RIC)			60 W				10	MAR	1960		PUERT	RIC	0			60 N				10	MAR	1960
TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	TIME	1200	1300	1400	1500	160	0 1700	1800	1900	2000	2100	2200	2300
OUAL HMIN SCAT HMAXF SHMAX KM 400 3700 3800 3500 3500 3200 2000 2000 2000 2000 20	234 46.53 340 402 643 643 613 576 524 452 257 161 83.88 40.22	248 50.0 360 383 565 565 560 543 356 203 127 64.7 12.4	239 50 • 0 346 384 582 580 567 5458 396 315 219	219 53.0 323 374 557 556 548 503 464 408 335 240 155 68.3 12.4	199 60.3 315 287 361 356 346 346 311 312 287 2287 229 176 127 78.0	208 64.0 350 262 292 292 293 272 260 244 226 204 179 150 123 97.2 71.4 49.6 12.9	237 68.8 392 230 235 235 233 229 222 211 199 152 133 115 95.9 77.1 60.0 43.6	238 45.0 328 376 670 665 643 608 553 467	109 41.4 275 822 121: 121: 1178 1108 858 690 540	0900 A		1786 1712 1786 1712 1786 1778 1744 1685 1600 1494 1351 1191 1025 859 707	OUAL HMIN SCAT HMAXF SHMAX SMA 380 370 360 350 340 320 320 320 290 280 270 260 220 220 220 210 200 190	1786 1778 1778 1740 1664 1430 1117 939 781 654 552	1300 A	A A	1500 A		O 1700		197 46.3 316 1070 1669 1662 1620 1537 1422 1259 1050 816 573 335 1308	189 53.8 321 914 1215 1215 1202 1168 1110 1036	189 61.9 342 759 917 917 909 889 856 679 256 477 362 477 362 1007 644.7	238 53.4 371 626 834 834 825 801 762 710 643 562 262 171 103 56.7	248 46.8 370 541 804 804 766 721 655 568 470 372
200 190 180 170					12 • 4				403 298 222 176			584 489 417 358	180 170 160 150	405 353 310 272								1204	2.8		
160 150 140 130 120									143 120 106 96.2 86.6			310 272 236 203 187	140 130 120 110	235 202 188 143											

ELECTRON DENSITY	ELECTRON DENSITY

340 739 726 277 330 370 716 330 713 724 264 321 360 854 710	227 278 252 208 5208 4709 370 402 373 559 536 530 754 764 745 716 684 793 710 635 780	52 .9 73 30
UNIT 239 230 222 210 188 222 230 219 112 108 111 MMIN 114 107 110 108 193 188 227 188 237 188	2.8 52.8 47.9 370 402 373 559 536 530 754 754 745 716 722 794 716 684 793 710 635 780	73 30
380 298 410 370 297 400 360 294 335 390 350 745 287 335 380 716 340 739 726 277 330 370 716 330 713 724 264 321 360 854 710	754 745 716 722 794 716 684 793 710 635 780	
310 608 666 716 524 335 227 287 599 1786 1697 340 2032 848 657 330 524 608 715 523 332 204 262 598 1786 1696 330 1969 2029 2361 833 612 290 417 525 699 515 322 179 229 586 1770 1669 320 1968 2006 2358 807 557 280 318 417 661 494 307 149 191 561 1004 1719 1585 310 1969 1965 1956 2325 1555 772 490 270 219 310 608 467 288 121 150 525 1004 1632 1866 300 1969 1880 1876 2260 1547 728 417 260 116 192 508 424 262 551 108 477 988 1520 1366 290 1944 1786 1775 2161 1508 675 340	613 377 636 557 277 552 490 179 446 417 103 335 340 56.6 227 267 12.4 139 198 80.7 140 44.3 0.6 4.9	80 48 31 36 52 46 35 27

				EL	ECTR	ON 0E	451TY										EI	LECTR	ON OE	NSITY					
	PUERTO	RIC				60 W				12	MAR	1960		PUERT	O RIC	0			60 W				12	MAR	1960
TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
TIME OUAL HMIN SCAT HMAN FMAN KM 440 430 420 410 390 390 390 390 320 310 300 290 280 270 260 240 220 210 200 190 180	794 783 794 794 783 741 673 573 446 223 179 78.8	219 38•2 307 384 754 747 716 659 446 286 143	208 36.2 286 360 774 769 736 679 417 2199 77.2	191 30.9 254 187	208 72.8 337 197 214 213 221 221 200 191 182 170 113 83.8 83.8 83.8	237 104 433 255 189 189 186 184 180 172 167 175 146 121 106 95 00 00 00 00 00 00 00 00 00 00 00 00 00	269 48•7 375 119 174 170 163 152 137 98•9 77•6 441•7	228 30.3 293 219 524 524 449 370 274	1110 40.5 264 802	A 118 40.8 273 978 1473 1472 1438 1359	A A		TIME OUAL HMIN SCAT HMAXF SHMAXF SHMAXF 390 380 370 360 350 340 290 210 200 270 260 250 240 270 260 270 260 270 260 270 260 270 260 270 260 270 260 270 260 270 260 270 260 270 260 270 270 260 270 270 260 270 270 270 270 270 270 270 270 270 27	108 46.8 298 1693 2096 2081 2016 1912 1751 1555	107 49.0 300 1658 1969 1950 1884 1786 1640 1467 1278 866 692 565	S	107 61.7 324 1981 2000 1998 1975 1926 1844 1745 1618 1465 1297	A 106 53.6 314 1737 1969 1966 1864 1770 1072 895 716 583 477 389 320	A	A A	193 53•3 319 1005 1393 1382 1347 1287 768 573 400 240 119	188 59.7 330 719 865 865 865 859 841 811 768 716 651 389 296 198	8 B	246 54.8 388 650 854 850 8754 690 608 515 407 292 198 133 83.8 55.1	249 41•8 341 485 875 875 876 821 760 666 540 389
160 150 140 130 120									150 123 106 94•1 86•5 49•6	189 159 132 119		300 262 227 190 168 71•4	110	127			127								

TIME 0000 0100 0200 0300 0400 0500 0600 0700 0800 0900 1000 1100 TIME 1200 1300 1400 1500 1600 1700 1800 1900 2000 2100 2200 2 OUAL MMIN 256 208 208 208 198 248 278 211 112 SCAT 5149 3546 3648 3147 5640 7741 6342 4944 3843 SCAT 5044 5541 4743 4744 5949 400 397 295 268 HMAXF 292 317 298 297 318 307 293 251 361 SHMAX 449 366 312 203 194 237 187 326 739 SHMAX 1744 1891 1690 1578 1576 967 610 699 455 KM 410 410 429 400 229 229 360 428 289 289 360 428 289 299 360 428 289 370 370 370 370 226 225 360 426 360 489 36	
OUAL HMIN 236 208 206 208 198 248 278 211 112 A A A OUAL HMIN 236 208 206 208 198 248 278 211 112 A A A OUAL HMIN 108 109 109 106 109 209 201 196 261 SCAT 41,9 35,6 36,8 31,7 56,0 77,1 63,2 49,4 38,3 SCAT 50,4 55,1 47,3 47,4 59,9 45,8 39,0 62,0 46,8 5 HMAXF 328 294 293 273 310 400 397 295 268 HMAXF 292 317 298 297 318 307 293 291 361 SHMAX 449 366 312 203 194 237 187 326 739 **RMA** HMAXF 292 317 298 297 318 307 293 291 361 SHMAX 1744 1891 1690 1578 1576 **RM** HMAXF 380 410 429 400 400 429 429 429 438 679 436 400 428 229 436 60 428 229 436 60 4794 716 470 470 470 470 470 470 470 470 470 470	13 MAR 1960
HMIN 236 208 208 208 198 248 278 211 112	0 2000 2100 2200 2300
340 195 186 310 2024 1662 1612 710 501 330 814 182 166 300 2177 1984 2096 1969 1663 1602 1143 662 410 330 806 262 168 141 290 2176 1907 2081 1956 1580 1556 1141 601 310 310 776 262 151 112 280 2146 1807 2018 1899 1503 1471 1111 533 198 310 776 262 151 112 280 2146 1807 2018 1899 1503 1471 1111 533 198 310 726 754 625 260 132 7843 557 270 2072 1699 1913 1786 1410 1354 1042 457 8348 8	9 201 196 261 253 8 39.0 62.0 46.8 54.3 17 293 251 361 371 7 610 699 455 495 7 704 716 690 7 704 706 671 7 705 671 690 7 707 708 679 611 7 72 637 602 7 74 578 544 2 710 501 460 2 1143 662 410 362 6 1141 601 310 262 1 1111 533 198 169 4 1042 457 838 83.8 7 935 377 44.2 0 805 301 9 629 229 9 629 229 7 389 166 7 179 112

ELECTRON DENSI	HTY	ELECTRON DENSITY	
PUERTO RICO 60 W	14 MAR	1960 PUERTO RICO 60 W 14 MA	R 1960
TIME 0000 0100 0200 0300 0400 0500 06	0600 0700 0800 0900 1000	0 1100 TIME 1200 1300 1400 1500 1600 1700 1800 1900 2000 2100 22	00 2300
OUAL 25 HMIN 22 SCAT 33.6 40.1 52.1 39.1 56.5 57.6 61 HMAXF 305 310 324 295 352 338 3 SHMAX 336 298 338 244 244 209 KM 370 360	213 218 111 110 109 77*6 41*0 46*9 47*7 45*3 364 292 275 289 286 240 275 742 1251 1429 255 256 249 201 557 219 556 1038 1570 1867 129 517 1035 1521 1816 104 477 1010 1437 1716 110 275 890 1167 1386 110 477 1010 1437 1716 110 275 890 1167 1386 110 275 890 1167 1386 110 275 890 1167 1386 110 275 890 1167 1386 110 275 890 1167 1386 110 275 890 1167 1386 110 275 890 1167 1386 110 275 890 1167 1386 110 275 890 1167 1386 110 275 890 1167 1386 110 275 890 1167 1386 110 275 890 1167 1386 110 275 890 1167 1386 110 275 890 1167 1386 110 275 890 1167 1386 110 275 890 1167 1386 110 275 890 1167 1386 110 275 890 1167 1386 110 275 890 1167 1386	9 108 HMIN 105 112 109 110 105-111 118 200 185 190 2 3 48.0 SCAT 54.5 51.9 53.9 54.6 62.7 53.7 55.2 48.4 43.3 60.4 49 6 285 HMAKF 297 320 311 320 31.4 308 31.7 306 299 343 3 9 1516 SHMAX 1701 1814 1852 1921 1767 1506 1465 1027 723 727 5 KM 3500 340 350 340 320 1969 2128 8845 7 320 1969 206 2128 1846 1815 845 7 320 1969 2076 2111 1843 1766 1809 1569 794 6 300 1907 1891 2075 2058 1821 1776 1774 1553 1143 748 6 290 1898 1802 2015 1962 1776 1735 1709 1525 1130 692 5 6 1891 200 1869 167 1891 2075 2058 1821 1776 175 1769 1525 1130 692 5 6 1891 260 1869 167 1891 2075 2058 1821 1776 175 1769 1525 1130 692 5 6 1891 260 1869 1676 1925 1842 1707 1663 1609 1454 1086 621 621 6189 167 1891 201 1898 1612 1776 175 1769 1525 1130 692 5 6 1891 260 1687 1322 1630 1499 1499 1425 1341 1206 911 457 261 168 168 168 168 168 169 174 174 156 168 168 168 168 168 168 168 168 168 16	22 241 22 49,3 43 359 12 500 754 45 748 44 727 31 689 01 643 57 564 069 25 362 24 247 35 138 40 80.2 49 46.8 8.8
130 120 110	96.2 161 187 91.1 142 161 86.0 129 149 40.2 83.8	1 188 120 194 181 174 150 135 98 7 50 4 9 171 110 161 127 83 8 127	

			ΕI	LECTR	ON DE	NSITY											ELE	CTRO	N DE	NSITY					
PUER1	TO RIC	0			60 W				15	MAR	1960		PUERTO	RIC					60 W				15	MAR	1960
T1ME 0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	TIME	1200	1300	1400	150	0 1	600	1700	1800	1900	2000	2100	2200	2300
SCAT 39a) 1 HMAXF 338 SHMAX 414 360 350 340 754 330 750 320 723 310 674 290 494 280 380 270 240 260 127 250 6040	387 387 3 774 766 732 674 581 3 446 7 286 127 444,3	735 729 700 651 446 310	36.7 275 247 532 529 509 469 411 310 161 60.0	61.2 329 247 298 296 291 280 268 251 229 201 168 133 100 71.4	68.8 352 236 246 244 239 230 221 210 179 157 135 112 70.5 353.5 41.1	55.4 338 195 240 239 233 224 210 194 174 100 78.9 66.9 20.1	38.6 275 277 565 562 563 508 446 354 229 97.2	875- 627- 627- 875- 869- 843- 798- 843- 798- 840- 310- 240- 310- 240- 310- 240- 310- 310- 310- 310- 310- 310- 310- 31	1191 1183 1149 997 766 567 446 354 281 233 166 143	1500 1499 1484 1452 1402 1333 371 371 371 3277 2377 2174	1969 1954 1893 1656 1466 1466 1452 1004 631 513 372 283 240 205 182 171	OUAL HMIN SCAT HMAXF SHMAX KM 390 380 370 360 350 340 270 280 270 280 220 210 200 190 180 170 160 160 160 160	2063 308 1840 2063 2053 2053 2056 1921 11018 834 679 9552 466 467 468 469 469 469 469 469 469 469 469 469 469	5 5 5	ć		5		53.2 328 1945 2294 2279 2225 2124 1987 1604 1375 1096 875 666 515	2310 2310 2305 2260 2171 2032 1855 1645 1376 1004	97.2	1446 1441 1414 1364 1289 1197 1075 917 742 524 298 150	46.6 396 1229 1907 1900 1853 1762 1625 1446 1224 960 696 417 219	F	243 39•4 341 867 1612 1611 1577 1481 1351 1159 8008 335 153 55•7

				E	LECTR	ON DE	NSITY										F	LECTR	ON DE	NSITY					
	PUERTO	RIC)			60 W				16	MAR	1960		PUERT	0 R1C	0			60 W				16	MAR	1960
TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	TIME	1200	1300	140	15 0	161 0	1700	180 (1966	2001	21	221.0	2301
QUAL HMIN SCAT HMAXF SHMAX KM	235 43•3 339 976	J	43.7 346	55.4 372	71.3 414	50.9 420	49.7 451	219 42•9 310 894	46.6 308	43.5 278	45.5 277	58.5 314	QUAL HMIN SCAT HMAXF SHMAX KM	53.2 314	48.8	5H.9 315	6° • 3 3 ±0	51.8 317	340	324	320	313	347	58 ¢ C	374
460 450 430 430 4100 4100 3300 3300 3500 3500 3200 2800 2200 2200 2200 1900 170 160 150 110	1652 1592		1137 1104 1038 948 826 670 499 310 143	1004 992 964 917 857 781 687 581 467 328 186 93.4	977 949 910 859 804 742 671 597 518 429 335 251	917 908 881 836 771 692 598 488 353 231 143 83.8 49.6	778 691 589 477 362 219 123 60•0 12•4	1669 1669 1646 1579 1475 1318 1050 679 262 97•2	1895 1786 1649 1446 1214 979 754 553 417 328 262 213 170 138 116 126 292.7 85.9	2274 2274 2194 2054 1853 1581 1221 875 555 557 1293 233 187 153 134 117	1958 1900 1799 1649 1446 1197 940 696 524 417 343 286	1608 1473 1317 1143 960 804 668 568 502 446 395 338 281 231 193 172	400 390 380 370 360 350 340 320 310 300 290 280 270 260 240 250 240 160 170 160 170 160 150 140 130	2157 2123 2050 1939 1786 1603 1399 1181	2259 2226 2141 2008 1836 1639 1417 1220 1031 875 745 632 540 4540 4540 279 245 212 189	2016 2012 1983 1924 1826 1708 1573 1417 1250 1050 875 709 582 477 389 330 286 243 208	1864 1809 1724 1625 1505 1373 1226 1067 917 635 508 417 356 281 249 216 186	1771 1764 1728 1659 1556 1433 1281 1096 917 7444 508 423 364 4316 269 159 1413	417 343 286 240 198 167 141 121 109	1858 1831 1773 1686 1574 1426 1230 1004 735 477 240 97•2	1626 1613 1574 1508 1415 1305 1143	1095 1080 1046 996 926 834 716 573 417 275 161	527 500 467 428 382 332 280 225 172 120	556 534 506 466 417 355 286 222 164 114 79•4 53•1	565 564 555 535 508 467

C. CCTDAN OCUCITY	ELECTRON DENSIT	Y

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	PUERTO	PICO	1			60 W				17	MAR	1960		PUERT) PIC)			60 W				17	MAR	1960
TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	IME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
OUAL HMIN SCAT HMAXF SHMAX KM 420 410 400 390 380	246 55•1 381 436	238 40•3 332 334	210 41•2 294	189 33•3 253	188 151 415	J 242 56•1 364	5 257 65•6 404	188 42.0 296	111 57•4 289	5 109 53•3 299	108 48•5 291	108 57.9 297	OUAL HMIN SCAT HMAXF SHMAX KM 360 350 340 330 320	54 • 1 322 1870	53.1 316 1983	60.6 332 2172 2161 2160 2141	57.3 331 2298 2500 2500 2475	59.4 319 2029	109 59.0 315 1841	53.9 337 1359 1815 1809 1773	48.5 328 1105	980 1420 1410	49 • 9 31 9 78 5	55 • 3 329 649 834 828	47.6 354 489 716 715 701 670 625
370 360 350 340 330 320 310 300 290 280	567 552 527 494 446 389	607 595 562 513 439	697 696 676		182 180 176 172 167 163 159 154	141 137 130	154 145 133 118 103 86.5 71.4 57.5	605		1613	1786 1785 1763	1779	310 300 290 280 270 260 250 240 230	1921 1828 1707 1546 1357 1163 960	2146 2066 1944 1786 1595 1368 1143	2011	2312 2180 2004 1786 1513 1240 1004 794	2187 2111 2001 1864 1692 1488 1265 989	1983 1926 1832 1719 1578 1408 1222	1603 1474 1313 1107 875 666 446 286	1513 1401 1249 1066 853 608 362 179	754 554	1101 1045 968 864 737 608 446 272	775 730 670 597 508 410 310 219	487 396 300
270 260 250 240 230 210 200 190 180 170 160 150 140 130 120	80 • 1 51 • 1 17 • 4	240 139 68.8 20.7	636 578 486 322 143 60•0	246 179	145 137 132 124 113 97•2 76•7 53•8	54.2 43.0 20.5	31.63		976 939 890 817 716 601 477 356 282 232 190 153 127 108 94•4	1503 1406 1288 1124 945 764 608 487 394 274 274 232 198 175 153	1702 1601 1467 1292 1110 896 701 540 434 362 310 267 232 201 176	1688 1600 1491 1352 1174 960 775 616 497 411 352 310 270 235 203 175	210 200 190 180 170 160 150 140 130 120	549 474 423 379 340 302 267 230 198 186 143	529 455 399 356 319 286 251 219	392 348 310 278 244 212 189	151	461 362 299 250 210 174	305 244 202 170 146 128 116			12•4		89.9 55.0 12.4	

TIME 0000 0100 0200 0300 0400 0500 0600 0700 0800 0900 1000 1100 OUAL HMIN 221 235 219 228 215 197 207 199 109 109 107 108 5CAT 35+9 40-2 34+7 37+1 50+2 45+8 55+6 47+2 44+7 69+5 47+8 46+5 5CAT 49+5 47+6 60+4 56+7 51+1 55+5 50+6 47+9 61+8 60+9 56+2 HMAXF 314 338 297 314 344 317 328 298 267 311 302 297 5HMAX 321 345 262 241 275 245 245 400 681 1346 1605 1854 KM 350 301 360 305 317 326 317 321 322 311 342 349 378 340 599 375 375 376 3300 593 3 368 323 320 625 569 461 352 362 321 1303 330 360 305 317 326 327 328 329 314 348 313 323 345 362 321 323 310 342 349 378 380 380 380 380 380 380 380 380 380 38	18 MAR 1960 PUERTO RICO 60 W 18 MAR 19	
OUAL HMIN 221 235 219 228 215 197 207 199 109 109 107 108		1960
High Name Name	71ME 1200 1300 1400 1500 1600 1700 1800 1900 2000 2100 2200 23	2300
250 179 71.4 286 143 104 179 161 471 927 1055 1369 1786 280 2227 2219 2075 1870 1950 1940 1786 1544 994 692 198 240 97.2 34.0 168 71.4 71.4 137 119 383 875 954 1166 1517 270 2081 2064 1945 1695 1772 1774 1570 1409 857 589 127	OUAL HMIN 107 108 109 109 109 109 198 199 199 201 239 2 504 47.4 46.5 5CAT 49.5 47.4 60.4 56.7 51.1 55.5 50.6 47.9 61.8 60.9 56.2 48 311 302 297 HMAX* 306 305 317 326 317 321 322 311 342 349 378 3 3 346 1605 1854 5MAX 2009 1945 2177 2119 1906 1942 1468 1124 1098 861 605 5 60.2 48 380 370 376 3 360 370 376 378 380 320 3274 1937 2188 392 3247 2128 2124 2124 1272 1288 969 564 77 318 7179 2190 300 2388 2389 2247 2126 2124 2126 2124 1226 1240 922 477 6 1132 1566 2019 200 2335 2335 2335 2377 2016 2089 2067 1940 1637 1096 786 291 3 365 389 1240 240 240 240 240 240 240 240 240 240	259 45•5 362 582 960 964 905 844 754 634 431 3179 77•9

67.1	CCI	DON	DENC	TTV

ELECTRON DENSITY ELECTRON DENSITY 60 W 19 MAR 1960 PUERTO RICO 60 W 19 MAR 1960

1800 1900 2000 2100 2200 2300	2200 2300
2161 1460 1215 865 781 2158 1907 1458 1215 839 75; 2128 1906 1437 1205 799 70; 2260 1877 1393 1174 743 64 1956 1802 1326 1122 672 55; 1817 1685 1240 1055 583 45; 1836 1519 1131 952 489 34; 1411 1305 898 827 389 244; 1158 1050 820 679 286 16 854 794 626 508 198 91;	875 801 865 785 839 754 799 706 743 643 672 554 583 455 489 344 286 161 198 91.5 127 54.4
54.4 333 1537 2161 2158 2128 2060 1956 1817 1636 1411 1158 854 477	46-0 67-1 54-3 3 322 334 330 1224 1149 889 1460 1214 1907 1458 1215 1906 1437 1205 1877 1393 1174 1802 1326 1122 1668 1240 1055 1519 1131 952 1305 989 827 794 626 508 310 310 207 712 198 121 1246 123 64-7 68-8 19-9

TIME 0000 0100 0200 0300 0400 0500 0600 0700 0800 0900 1000 1100 OUAL HMIN 250 248 237 221 205 178 233 219 110 109 109 110		ELECTRON DENSITY																E	LECTR	ON DE	NSITY					
OUAL HMIN 250 248 237 221 205 178 233 219 110 109 109 110		PUERT	O RIC	0			60 W				20	MAR	1960		RUERT	O RIC	0			60 W				20	MAR	1960
HMIN 250 248 237 221 205 178 233 219 110 109 109 110	TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
140	HMIN SCAT HMAXF SHMAX 370 3600 3500 3200 2900 2900 2000 1800 1500 1500 1500 1200 1200 1200 1200 12	716 713 716 713 694 659 611 535 430 303 179 77,8	51.4 356 446 670 668 654 628 540 466 362 262 271.4	38.7 326 335 643 639 616 573 508 406 293 179 76.5	51.4 332 390 565 565 567 538 511 471 417 349 275 198 120 60.0	43.0 281 223 432 424 405 379 331 240 137	77.0 367 286 251 258 244 236 227 218 9 172 137 120 188.5 74.5 61.5 49.6 37.3	53.5 352 182 246 245 243 234 223 208 188 163 134 163 134 163 184.5	45.3 296 352 661 661 661 661 641 611 7348 8179 12.4	939 939 939 901 844 458 335 201 161 116 116 90 90 90 90 90 90 90 90 90 90 90 90 90	1354 1354 1341 1259 1191 1096 691 5691 691 691 1091 1091 1091 1091 1091 109	1786 1786 1783 1754 1471 1075 875 640 446 367 310 268 232 202 178	2032 2032 2028 2020 1943 1856 1749 1607 1417 1175 936 716 573 469 401 351 310 273 203 203 203 203 203 203 203 203 203 20	HMIN SCAT HMAXF FMAXF FM	1907 1907 1904 1883 1841 1776 1690 1586 1309 1458 1309 1590 825 679 568 470 395 342 202 268 268 278 288 288 288 288 288 288 288 288 28	109 5663 307 1790 1922 1914 1876 1876 1704 11083 894 725 590 486 412 319 319 328 428 212 218	2063 2052 2063 2059 2029 1969 2029 1760 1612 460 460 451 359 319 2253 221	2016 2015 1944 2016 2015 1996 1761 1628 1761 1628 1109 917 746 6503 427 317 272 223 198 174 174 174 174 174 174 174 174 174 174	2161 2160 2139 2090 2099 2099 1997 1770 1601 1997 1205 976 442 374 442 374 442 374 1193 161 141 141 143	2193 2193 2171 2171 2171 2171 2171 2171 2171 217	218 52.8 325 1397 2048 2043 2006 1932 1823 1682 1483 1240 917 540 219	57.6 329 1306 1697 1652 1593 1395 1253 1096 898 679 417 219	1240 1236 1236 1154 1074 960 834 679 497 325 179 79•7	58.1 349 803 971 965 946 910 862 799 721 628 532 328 229 13.8 53.8 53.8	56.7 372 652 834 833 824 802 764 716 656 579 492 398 296 2188 112 67.3	45.5 360 550 875 875 865 834 780 707 608 499 362 230 118 60.0

FLECTRON OFNSITY	FLECTRON DENSITY

	PUERTO	RIC	0			60 W				21	MAR	1960		PUERT	0 R1C)			60 W				21	MAR	1960
TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
OUAL HMIN SCAT HMAXE SHMAX	231 49.1 349	242 41.8 338 417	229 44.0 334 412	218 45•1 318 347	211 49•0 331 332	319		210 35 • 4 271 322	270	109 55•0 286 1220	306	290	OUAL HMIN SCAT HMAXF SHMAX KM	316	317	61.1	49.3 314	57.0 320	58.9 335	48 • 2 323	216 41.2 298 1165	49.6	60.9 315	207 42•4 330 489	
350 340 330 320 310 300 290 280 270 260 250 240 210 200 180 150 140 130 120	796 772 730 6674 598 498 381 262 149 83,8 47,5	735 729 702 654 586 487 369 240 136 60•0	679 678 661 627 577 318 209 115 4.5 4.5	573 569 5518 473 4073 227 234 12•4		400 374 335 286 226 167 112 68•2		754 737	1084 1069 1026 954	1433 1429 1404 1355 1187 1064 469 377 307 254 469 377 307 212 179 153 135	1742 1669 1565 1427 1260 1096 940 794 667 563 477 405 341 286 243 203 172 154	1902 1839 1729 1590	360 350 340 320 310 310 290 280 270 260 250 210 200 190 180 170 160 150 140 130	1901 1868 1805 1706 1583 1446 1289 974 834 716 617 535 462 398 346 305 265 223 193	2047 1926 1786 1602 1407 1192	2249 2181 2075 1948 1786 1612 1418	2256 2214 2117 1978 1807 1606 1376 1127 754 608 508 434 329 286 249 214 172	2227 2208 2155 2068 1945 1786 1604 1391	2193 2089 1961 1799 1600 1383 1127 901 702 553 446 362 301 252 210 174 143 122 109	2427 2384 2294 2137 1937 1669 1240 754	2193 2172 2086 1935 1722 1418 1004 508 143	1503 1449 1363 1248	1000 973 930 875 807 716 608 477 335 179		726 722 701 661 608 529 437 328 219 127 71.4 20.3

FLECTRON DENSITY		ELECTRON DENSITY

	PUERT	R1C				60 W				23	MAR	1960		PUERT	RIC				60 W				23	MAR	1960
TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	TIME	1200	1300	1400	1500	1600	1700	1800	1900	; (iii);	2100	2200	2300
QUAL HMIN SCAT HMAXF SHMAXF SHMAXF 3600 3500 3200 3200 2500 250 2400 2500 2400 2300 2700 2600 2500 2400 2500 2400 2500 2500 2400 2500 25	745 745 745 745 745 744 732 702 658 602 516 400 286 161 91.88	0100 233 49.1 353 438 643 642 632 6071 523 455 372 286 205	0200 230 40 •1 331 347 608 608 596 566 566 567 279 179 97 •2	220 43.2 319 318 540 534 517 427 362 277 189	212 54.8 334 317 417 410 397 376 350 316 228 182 134 86.9	0500 215 52.6 323 265 389 388 383 370 350 326 234 173 112 62.7	210 47.4 301 205 335 335 331 319 301 277 240 191	8 209 44.66 276 338 670 667 648 614 562 468	107 45.4 260 671 896 896 886	1215 1215 1215 1216 1116 1116 1032	1000 108 59.0 304 1497 1583 1582 1562 15162 1454 1363 1247 1119 960	1100 108 56.03 303 1573 1697 1696 1674 1625 1548 1446 1310 1143		1200 106 60.3 323 1979 192 1920 1898 1849 1772 1669 154: 1394	1300 109 58 * 0 328 2043 2054 2007 1935 1838 1/14 1506 1300 1211	113 64.1 328 2086	2177 2189 2177 2177 2177 2161 2104 2150 1752 1816 1649 1446 1256 10 7	107 00.° 37. 2093 2161.160 .136. .00. 1898 1761 1777 1370 1177	.000 1997 1170 1915 1861 .000 1997 1170 1915 1727 1587 1440	229 56.6 337 1329 1846 1839 1735 1649 1530 1369 1168 917 608	199 56 • 0 324 116? 1583 1 • 81 1564 1503 1446 1341 1 • 00 1035	198 5446 325 916 1213 1213 1151 1090 1004 899 770 626	2100 204 56.2 345 770 960 958 910 862 910 862 731 651 554 446 330	2200 218 55.0 370 704 865 865 857 835 747 685 608 529 349	2300 265 39.6 378 485 804
220 210 200 190 180 170 160 150 140 130 120					40.9	32.6?	0000	49 ₄ 6	637 540 440 347 262 203 166 139 117 105 83 • 8	679 566 471 389 325 267 222 188 158	658 546 462 393 335 289 254 215 173	687 573 485 412 356 310 272 242 198 172	100 2200 2100 200 190 180 170 160 150 140 130 120 110		859 716 594 502 4341 335 298 256 216 195 182 112	766 653 557 477 407 30° 259 217 188 173 162	701 588 508 442 338 293 251 212 185 172 162	794 631 508 426 365 315 273 237 205 177 158 148	834 643 602 204 316 254 208 174 147 131		36. 161	198 112 57.6	133 71+4	4906	

	ELECTRON DENSITY																Ε:	LECTR	ON OEI	NSITY					
	PUERTO	0 R1C				60 W				24	MAR	1960		PUERT	0 R1C	0			60 W				24	MAR	1960
TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
QUAL HMIN SCAT HMAXF SHMAX KM		256 48 • 1 36 9 578							36 a 6 268	59.9 295		63.6 312	DUAL HMIN SCAT HMAXF SHMAX KM	324	109 59.5 335	68 ₆ 8 354	59.6 340	65±0 340	110 72 • 7 348 22 7	47.4 328	58.5 326	61.1 339			61 a 4 41 4 79 4
410 400 390 380 350 350 340 330 320 3100 290 280 270 260 250 210 200 190 180 150 140 150 140	875 877 837 794 671 573 477 362 250 17 97 • 2	868 842 797 733 649 550 428 286 179	875 874 856 819 7573 407 198 105 560 310 198 405	402 299 179 97.2 40.2	174 127 83 ₀ 8	231 217	181	751 716 656 573	1454 1381 1261 1073 875 643 467 327 245 192 154 126 110 104 98•2	1525 1504 1462 1399 1331 1224 1082 917 746 589 453 362 291 240 198 161 141	709 581 482 402 331 275 231 186 159	1654 1619 1564 1487 1393 1273 1143 996 853 725 618 527 451 389 258 258 219 189	420 410 390 380 350 350 350 340 320 310 270 270 210 200 190 180 170 160 150 110 110 110 110 110	1905 1883 1837 1765 1674 1555 1419	2028 1999 1942 1849 17 2 1593 1435 1261 1072 917 778 664 573 5458 410 365 323 281 240	2205 2161 2090 2012 1899 1743 1555 1368 1179 1004 842 708 608 527 462 409	. 161 . 146 . 101 . 074 1917 1786 1613 1430 1240 1031	2032 2018 1981 1920 1820 1724 1592 1446 1276 1118	2064 2014 1946 1865 1762 1637 1488 1°15 1143 942 754 66 372 304 254 254 182 157 137	1907 1893 1838 1736 1600 1412 1159 834	1636 1611 1562 1487 1394 1270 1109 917 679 446 219	1163 1125 1074 1004 907 794 668 540 389 249	366 301 233 168 115 75•4		945 912 860 794 697 592

PUERTO RICO	60 W	25 M	MAR 1960	PUER	RTO RICO	60 W	25 MAR 1960
TIME 0000 0100 0200	0 0300 0400 0500 0600	0700 0800 0900 1	1000 1100	TIME 120	00 1300 1400 1500 1600	1700 1800 1900 2000	2100 2200 2300
HMAXE 354 298 297 SHMAX 713 449 481 KM	4 51.0 60.0 83.5 58.0 7 301 327 402 367 1 258 242 282 208	54.6 46.7 58.9 4 7 306 285 308	298 310	SCAT 52. HMAXF 32 SHMAX 212 KM	A 09 110 110 109 108 00 54.0 60.6 60.3 69.7 21 325 329 333 334 21 2201 2272 2082 1949	A A 217 225 199 63.0 50.8 53.5 350 332 339 1469 1111 1004	371 386 394 1087 727 730
410 400 390 380 370 360 1107 350 1106 340 1088 330 1058 320 1004 310 908 300 770 1004 844 290 608 990 830 770 1004 847 290 608 990 837 1280 417 931 818 1270 219 825 784 606 785 785 785 785 785 785 785 785	9 384 259 127 135 5 372 242 97 2 1 2 2 2 2 2 7 1 4 2 2 4 4 2 5 4 6 6 6 2 2 2 7 1 4 4 2 6 4 6 6 6 2 4 0 1 2 4 6 6 6 6 2 4 0 1 1 2 4 6 6 6 6 2 4 0 1 1 2 6 6 8 6 6 2 4 0 1 1 2 6 6 8 6 6 6 2 4 0 1 1 2 6 6 8 6 8 6 6 2 4 0 1 1 2 6 6 8 6 8 6 6 2 4 0 1 1 2 6 6 8 6 8 6 6 2 4 0 1 1 2 6 6 8 6 8 6 6 6 2 4 0 1 1 2 6 6 8 6 8 6 6 2 4 0 1 1 2 6 6 8 6 8 6 6 6 2 4 0 1 1 2 6 6 8 6 8 6 6 6 6 6 6 6 7 1 2 6 6 8 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6	688 1815 6686 1808 2 669 1350 1719 2 669 1350 1719 2 669 1350 1719 2 6615 1317 1862 1 671 1354 1535 1 671 1354 1535 1 477 1161 1365 1 477 1033 1143 1 344 875 960 1 270 679 754 204 508 608 148 389 492 109 310 408 88-8 247 343 68-3 201 286 58-5 164 237 52-9 134 194 47-6 118 166 42-7 107 142 12-4 95-2 131	2078 2080 1958 1976 1796 1828 1587 1641	320 229 310 226 300 219 300 219 290 192 270 173 200 153 250 151 240 111 230 33 220 77 210 64 200 55 190 48 180 41 170 36 160 32 150 25 130 21 120 19	49 608 643 593 562 55 508 540 515 466 81 440 466 454 389 67 345 354 352 286 28 307 310 304 247 94 265 273 262 213 58 230 238 227 184 19 212 214 198 161	1815 1804 1697 1354 1761 1697 1345 1701 1675 1229 1623 1614 1250 1519 1545 1170 1391 1416 1069 1215 1240 935 1004 1022 780 766 754 616 528 446 446 286 198 275 112 49.6 161 40.2 91.4	982 679 631 931 587 508 869 484 382 794 380 262 716 286 161 631 184 87•1 540 119 44•4 451 71•4 366 42•6 280 202 136

	ELECTRON DENSIT	Y						Εl	ECTR	ON OE	NSITY					
PUERTO R1CO	60 W	26	MAR 1	1960	PUERTO	RICO				60 W				26	MAR	1960
TIME 0000 0100 02	0 0300 0400 0500 060	00 0700 0800 0900	1000 1	1100 T1ME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
SCAT 46.2 45.8 44 HMAXF 347 309 2 SHMAX 682 577 3 KM 420	0 234 229 212 20	66 44.5 52.1 45.9 4 306 282 283 9 466 1160 1371	70.9 4 305	49.9 SCAT 299 HMAXF 1589 SHMAX KM 390	330	108 54.5 325 2188	338	53.2 331	62.1 338	61.2 324	53 • 2 335	55.2 331	60.3 349	211 62•3 348 798	386 713 917	52 • 1 35 9
	7 334 143 71.4 34.6 316 119 53.7 6.0 289 97.2 40.2 7 249 78.2 5.8 6 198 60.0 2 140 45.3 9 83.8 21.5 2 45.6	177 111 112 113 128 129 124 144 117 127 127 127 127 128 129 129 129 129 129 129 129 129 129 129	1714 1 1659 1 1588 1 1503 1 1396 1 1261 1 1096 917 716 548 412 329 277 236 196 173 154	1786 260 1736 250 1646 240 1515 230 1366 220 1209 210 1050 200 617 170 519 160 439 150 376 140 328 120 248 120 248 110 206	2020 1984 1925 1836 1731 1599 1446 1279	2294 2289 2252 2176 2054 1907 1720 1516 1299 1096 783 668 783 668 783 699 434 379 335 297 253 297 253 206 184	2330 2260 2161 2032 1869 1685 1485	2293 2267 2200 2088 1942 1758 1555 1341 1121	2285 2248 2181 2081 1958 1800 1609 1401 1195 834 679 564 477 412 356 303 257 219 187 162	2000 1998 1973 1921 1839 1738 1604 1446 1273 1096 562 440 348 281 232 440 165 143 126 117	1902 1869 1801 1701 1571 1389 1143 834 389	1500 1461 1396 1316 1197 1050 875 660 463 277	1271 1227 1169 1096 986 853 705 551 403 286 117 71.4	464 362 255 151	915 900 871 834 773 608 498 276 389 276 17•2 49•6	896 890 865 826 771 696 594 477 350 233 139 80.8 84.5

				Εl	ECTR	ON DE	ISITY										EI	ECTR	ON DE	NS1TY					
	PUERTO	RIC)			60 W				27	MAR	1960		PUERT	o Plc	0			60 W				27	MAR	1960
TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
T1ME OUAL HM1N SCAT HMANF SHMAX KM 380 370 360 350 320 310 290 270 260 250 240 220 210 210 200	0000	0100 226 50 • 5 322 484 784 783 773 747 712 651 556 430 286 143	0200 213 59•5 351 411 508 508 504 492 473 449 417 320 262 198 188•9	223 58 • 9 349 371 477 474 464 448 395 357 306 247 182 121 71 • 4	217 65•1 374 358 389 388 384 362 344 260 223 185 150 117 85•7 60•0 44•0	0500 207 54.0 338 293 389 387 378 363 342 277 231 182 136 94.9	238 52•7 356 262 362 363 353 340 320 295 259 216 172 124 81•3	A 198 40.8 289 44? 854 844 811 754 6430	107 54•1 278 937 1155 1148 1121 1086 1011	108 63•9 308 1583 1626 1619 1594 1547 1482 1402 1294 1163 1004 834	109 64.4 314 1992 2048 2045 2017 1967 1918 1821 1685 1512 1323 1096 893 716 686	108 63.9 321 2251 2251 2243 2225 2180 2103 2015 1883 1715 1520 1310	TIME OUAL HMIN SCAT HMAXF SHMAXF KM 410 400 390 380 370 360 350 340 310 300 290 270 260 250 240 230	108 57•1 330 2256 2294 2277 2226 2134 2010 1855 1457 1240 1075	2294 2287 2294 2287 2250 2281 2069 1935 1411 12064 1004	2430 2417 2371 2294 2175 2032 1460 1264 1071	107 59.3 344 250° 2448 2346 2399 2326 2227 2227 21556 1341 1143	108 59.9 341 2408 2448 2447 2422 2355 2283 2161 1160° 1364 11564 11564 941	2361 2354 2352 2352 2354 2354 2354 2354 2354	8	20967-8 3551463 16691613 1560 115667 1613 1598 1290 2156 297 297 297 297	219 64.0 363 1170 1393 1392 1379 1240 1154 1050 90° 741 57° 244	209 58.5 349 986 1240 1232 1100 1019 917 794 643 499 350 -112	227 73•3 389 1045 1084 1080 1067 1041 1004 964 911 567 567 439 310	258 56.00 4004 859 1061 1059 1040 1004 955 8977 736 6277 736 6277 737 277 277 277 277 277 277 277 277
190 180 170 160 150 140 130 120									310 240 198 168 143 127 116	367 306 260 222 190 166 150	412 355 306 262 219 183	438 382 339 299 260 219 193	210 200 190 180 170 160 150 140 130 120	643 550 477 417 372 335 305 262 207 188 143	573 485 423 379 339 300 265 231 205	470 428 382 335 296 258 226	582 508 446 389 341 300 265 234 207 188 143	524 446 389 335 288 250 216 188 166 152 112	498 389 314 267 223 190 163 141 125 116 92•3		12.4		4.5		

				EL	ECTR	N DEN	ISITY										EI	ECTR	ON DEN	ISITY					
F	PUERTO	R10)			60 W				28	MAR	1960		PUERTO	RIC	0			60 W				28	MAR	1960
TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
QUAL HM1N SCAT HMAXF SHMAX KM		243 51.6 343 637	42.7 315	201 53.8 311 480	63 . 1	221 57•1 335 283	373	8 230 31.5 286 292	293	54.2	320	А	QUAL HMIN SCAT HMAXF SHMAX KM	63.3 340	60.0 345	109 63•0 356 2498	57.5 342	5°.3		59.3 333	67.5 342	200 51.7 350 865	64.9 374	61.6 439	53.3
390 380 370 360 350 340 330 320 270 260 270 260 220 210 210 110 140 120 110	893 794 664 508 335 179 83•8 40•2	1015 998 968 917 834 716 552 362 179	928 925 899 856 769 646 219 83.4 12.4		112 60•0		355 354 347 331 331 327 274 237 191 143 94.07	7548 748 705 627 490 262 12•4	1004 992 967 929 879 807 710 592 459 341 257 203 164 132 110 96.4 91.8 87.1	590 477 389 327 277 233 192 159	1577 1499 1408 1301 1178 1050 917 794 663 548 455 384 455 384 283 240 205 176 155		440 430 420 410 390 380 370 360 350 320 310 290 280 270 260 250 220 210 200 190 170 160 150	2144 2131 2091	2256 2225 2161 2063 1939 1786 1612 1420 1215	1993 1842 1669 1480 1293 1125	2292 2265 2203 2100 1969 1807 1623 1425 1227 1050	2277 2277 2256 2198 2094 1961 1800 1611 1408		1682 1660 1610 1560 1469 1350 1198 1019 814 573 299 153	1419 1408 1381 1341 1278 1209 1120 1004 859 694 508 310 169 80•0	1039 984 917 840 754 655 550 440 325 219 138 83.8	552 460 362 262 173 103 57•5	866	921 860 784 690 573 446 295 172 97.2

				Εt	ECTR	ON DE	YTIZV										Ε	LECTR	ON DE	NSITY					
	PUERT	RIC	0			60 W				29	MAR	1960		PUERT	O RIC	0			60 W				29	MAR	1960
TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	F300	1000	1100	TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
QUAL HMIN SCAT HMAXF SHMAX KM	48.6 387	47 ₄ 5 341	43 ₄ 9 316	39 ₄ 2 290	66 ₄ 3 333	81.2 386	317 60.2 444 197	292	52.0 277	290	74 • 4 327	108 72.4 335	QUAL HMIN SCAT HMAXF SHMAX KM	59.0 337	A 109 64•3 343 2479		109 64.6 340	58 a 8 328	67.7 332	60.6 343	70 • 1 356	219 57.8 362 1023	48 • 6	55 • 7 425	66+0
450 440 430 420 410 400 390	1084 1079 1050 1004 928 834 723 5899 446 286 161 83.8 49.6			240	439 435 426 412 397 375 342 298 244 186 127 83•8 52•5	274 271 267 260 252 2431 216 196 175 152 129 185.6 67.5 51.8 40.2		854 783 663 477	1284 1255 1198 1133 1020 875 716 573 430 317 240 184 149 127 116	1473 1473 1463 1428 1378 1318 1224 1096 937 7617 499 396 316 257 213 177 154	1514 1511 1495 1466 1418 1361 1291 1209 1116 1019 917	1651 1620 1573 1505 1428 1331 1224 1104 988 875 764 655 555 555 555 470 403 350 266 225 187	430 420 410 400 390 380 370 360 350 340 330 320 310 290 280 270 260 250 240 230 190 180 177 160 150 140 130 120 110	811 686 588 508 446 396 354 316 276 235 197	2371 2318 2228 2121 1986 1803 1590 1368 980 819 679 425 376 425 373 293 213 193 182		2172 2098 2012 1886 1741 1571 1383 1192 1004 850 716 601 508 438	2032 1986 1919 1816 1692 1373 1204 1050 875 716 580 4335 289 215 186 163 151	1907 1906 1892 1857 1801 1721 1628 1510 1367 1198 847 679 549 436 352 289 245 245 179 157 141 131	1726 1707 1664 1598 1506 1393 1259 1106 917 716 446	1514 1512 1495 1463 1415 1363 1289 1187 1050 894 699 508 300	906 776 643 499 362 240 143 71•4	1215 1196 1151 1081 985 875 747 608 446 298 161 71•4	1238 1218 1179 1119 1041 942 826	1050 887 679 461 272 127

				EI	ECTR	ON OE	NSITY										EI	LECTR	ON DE	NSITY					
	PUERT	RICO)			60 W				30	MAR	1960		PUERTO	D RIC	0			60 W				30	MAR	1960
TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
OUAL HMIN SCAT HMAXF SHMAX KM 410 400	228 47.8 345 1046		196 56.4 295 604	205 54.5 318 243	278 58.3 403 255 316 316 316	378	\$ 227 58•7 339 274	61.4 302	63 ₄ 5 296		58.0 302	64.5 333	OUAL HMIN SCAT HMAXF SHMAX KM 410 400	В	В	5	110 59.0 342	352	56.0 329	61.9 351	71.2 375	69.9 388 1276	237 67.3 401 1345 1473 1473	58 • 4 378	351
380 370 360 350 340 330 320 310 390	1669 1664 1629 1555 1456 1312	1669	917 915	333 326	302	319 304 287 265 237 203	355 353 345 333 315 293	754 754	1167	1569 1567 1544 1503	1969	1885	390 380 370 360 350 340 330 320 310				2226 2203 2143 2049 1930	2093 2014 1907 1775	2112 2098 2050 1953	1937 1922 1870 1800 1713 1605	1554 1539 1508 1463 1400 1330 1240 1126	1319 1288 1240 1180 1112 1022 908 787	1436 1393 1332 1255 1164 1050 910 754 608	1413 1386 1338 1268 1180 1067 917 754	1341 1325 1281 1207 1114 980
280 270 260 250 240 230 220 210 200 190 180	834 508 262 127 64•8 12•4	1667 1620 1510 1341 1050 679 240 49.6	901 872 836 775 669 525 335	295 272 240 198 151 105 62•7	12 4 4	129 97 ₀ 2 66 ₀ 5 45 ₀ 6 12 ₀ 4	265 230 190 143 97 • 2 40 • 2	731 704 671 622 550 458 347 240 161 109	1149 1119 1081 1017 932 834 727 618 508 401	1461 1393 1300 1191 1074 943 804 657 517 406	1896 1815 1714 1574 1385 1143 889 694 560 467	1684 1542 1377 1208 1050 893 762 643 551 468	290 280 270 260 250 240 230 220 210 200 190				1626 1446	811 697 608 526 453 392	1700 1544 1367 1189 1004 809 633 492 389 316	1285 1078 834 508	875 724 573 446 322	171	461 310 172 101 58•0 18•5		
170 160 150 140 130 120								46.4	310 248 198 165 140 123 112 60.0	329 275 235 202 172 153 133		398 341 290 243 211 192 180 83•8	180 170 160 150 140 130 120				389 345 306 270 238 216 202 49•6	181	118						

ELECTRON DENSITY

ELECTRON DENSITY

	PUERTO	RICO)			60 W				31	MAR	1960		PUERT	0 RIC	0			60 W				31	MAR	1960
TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
QUAL HMIN SCAT HMAXF SHMAX KM	50.8 377	42 • 2 355	51.65 334	209 52•1 316 543	395	227 59.6 383 494	245 56•3 394 524	44.5 298	281	54 • 1 302	69.5	110 101 397 2433	QUAL HMIN SCAT HMAXF SHMAX KM	70.3 338	110 76.4 355	108 96.9 392 1879	99 • 1 414	436	85 • 8 372	63 • 2 38 6	70 • 8 414	66 ± 3 529	F	F	F 231 61.9 381 1287
400 390 370 370 310 310 310 310 310 290 290 290 290 210 210 210 210 210 210 210 210 210 21	1215 1209 1181 1128 1055 951 823 679 477 296 153 64.0	1211 1178 1109 1004 875	1141 1121 1078 1019 924 794 608	310 161		100 68.6 46.7	169 120 80.0 53.1	917 834 722	1354 1332 1281 1220 1107 960 7946 643 508 376 278 211 167 135 111 105 99•1	1340 1323 1283 1217 11322 1027 911 787 663 550 458 384 319 268 226 188 153 138	1049 1043 1026 996 955 849 786 651 583 519 459 401 346 296 254 219 181	1159 1092 1018 944 869 800 734 675 558 501 446 389 343 303 267 231 198	530 520 510 5100 480 4400 4400 430 4200 390 380 370 360 370 360 370 360 370 360 370 360 370 360 370 360 370 370 370 370 370 370 370 370 370 37	2089 2061 2012 1942 1851 1746 1607 1446 1260 1096 917 754 608 501 429 378 333 290 248 213 194	1998 1982 1948 1897 1833 1758 1653 1520 1369 1207 1041 875 723 608 527 463 411 368 331 297 262 223 198	1131 1126 1110 1100 1074 1045 1011 973 930 886 839 794 697 652 608 529 491 452 452	1555 1548 1533 1510 1480 1390 1341 1277 1208 887 732 664 455 1335 415 335 299 267 221 018 131 167	1273 1246 1174 1135 1087 1031 1967 7554 6837 7554 417 384 457 417 335 330 306 306 328 325 31 227 184 184 184 184 184 184 184 184 184 184	1341 1334 1294 1260 1215 1106 1032 948 655 563 481 409 350 262 228 201 157 140 126 127 140 126 127 140 140 140 140 140 140 140 140 140 140	1220 1187 1138 1072 995 899 779 643 477 310	1527 1514 1485 1440 1377 1303 1215 1114 995 859 704 540 335	151 71•4			1528 1528 1516 1489 1358 1266 1155 679 508 335 198 105 105 106 105

4.5	096	300	2 28 2 46 5 4 6 1 4 5 1 8 3 1 9 3 1 9 3 1	6.7 8.4 1126 1161 206 203 333 4119 629	66655 66655 77194 77194 77552 77552 77562 77562 77562 77562 77562 77562 77562 77662 77
BELOW 4	7	200 2:	2222 4446 9444 0932 222 2	9.00 7 101 9.00 7 1130 1156 1166 212 270 343 430 533	666 689 731 731 740 750 768 788 798 798 708 708 708 708 708 708 708 70
ΚP ΒΙ	MA	100 2	28 200 4 • • 4 9 • • 4 9 9 9 9 4 9 3 9 4 3 7 3	7 • 8 7 9 • 7 12 8 12 8 12 8 2 6 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9	6 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
		000 2	29 4 6 8 4 6 8 5 2 2 7 7 9 2 2 4 9 3 8 5 3	0 8 7 1116 9 1149 1191 245 313 398 633 784	816 848 848 914 947 979 10011 10011 1100 1100 1100 1100 1100 1100 1100 1100 1100 1100 1100 1100 1100 1100 11
		900 2	29 205 5•1 2•4 706 1322 181	1122 9 1156 200 256 328 419 577 677	0.00
		800 1	24 215 551 561 640 981 331 335 1395 1395 1396 584 584	148 190 243 312 399 510 650 823 1034	8 6 6 4 4 4 7 6 6 6 7 4 4 4 4 7 6 6 6 7 4 4 4 7 6 6 7 7 4 8 7 7 7 8 7 8 7 8 7 8 7 8 7 8 7 8
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CTRON	9	1600 1	25 108 4.0 58.9 5137 326 2016 8045	156 200 257 329 421 538 686 869 1093 1355	14688 11542 11542 11700 11700 11700 11813 11813 11966 11966 11967 11967 11967 11968 11968 11969 11969 11968 11968 11969
ELE		1500 1	26 108 4 • 0 57 • 4 2198 328 2103 8304	162 207 207 266 341 436 558 710 900 1131	100
VERAGE		1400	23 109 3 • 9 58 • 1 2209 2327 2142 8374	162 208 267 342 438 560 713 903 1135	1146833 117633 117633 117633 117633 117633 11878 11878 11878 11878 11878 11878 11878 11888
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BELOW 4.5	0	\vdash	23 26 108 108 4.3 4.1 53.8 55.1 1806 1993 1565 1787 6661 7408	115 131 148 168 189 216 313 277 313 254 398 453 508 578 646 925 816 927	1110 1259 11110 1258 11150 1351 11255 1472 1352 1472 1352 1472 1400 1580 1447 1633 1447 1633 1631 1828 1631 1828 1631 1828 1647 1633 1648 1735 1705 1905 1705 1905 1706 1705 1707 1905 1708 1887 1709 1709 1709 1709 170
ELOW	19	000	23 108 4 • 3 3 • 8 5 806 1 565 1 661 7	3.7 115 1 120 148 1 1154 189 2 253 243 2 254 398 4 414 508 5 414 508 5 666 816 9	1064 11106 11106 11253 11302 11302 11302 11449 11449 11449 11449 11449 11543 11706 11706 11706 11706 11706 11706 11706 11706 11707 11708 11707 11708 11707 11708 11707 11708 10708 1
BELOW	19	900 1000 11	28 26 23 110 109 108 5.0 4.4 4.4 4.4 4.6 15.0 1167 15.5 1806 1 276 29 299 840 1272 6661 7	93*7 115 1 120 148 1 154 189 2 1 198 243 3 253 398 4 324 398 4 5 414 508 5 6 66 816 9	
BELOW	19	800 0900 1000 11	28 28 26 23 201 110 109 108 43.3 46.1 53.0 83.8 5 697 1167 153.9 1806 1 292 276 290 299 284 840 1272 1565 5 2349 4133 5602 6665 7	43.0 66.6 93.7 115 17 17 17 17 18 18 18 18 18 18 18 18 18 18 18 18 18	653 910 1110 1663 910 1110 1663 910 1110 1663 910 1110 1663 910 1110 1663 910 1110 1663 910 1110 1663 910 1110 1663 910 1110 1663 910 1110 1663 910 1110 1663 910 1110 1663 910 1110 1110 1110 1110 1110 1110 1110
ITY KP BELOW	MAR 19	0600 0700 0800 0900 1000 11	28 28 28 28 28 28 28 28 28 28 28 28 28 2	43.0 66.6 93.7 115 17 17 17 17 18 18 18 18 18 18 18 18 18 18 18 18 18	242 400 625 872 1064 256 417 653 910 1110 1255 435 682 910 1110 1255 472 741 1029 1255 1272 472 741 1029 1255 128 435 582 910 1112 134 147 128 128 128 128 128 128 128 128 128 128
N DENSITY KP BELOW	19	0500 0600 0700 0800 0900 1000 11	28 28 28 28 26 23 24 4.4 4.4 4.9 4.9 4.9 4.9 4.9 4.9 4.9 4.	27.9 28.8 43.0 66.6 93.7 115 15 15 85.8 37.0 55.2 85.5 120 148 1 15 85.9 47.4 70.8 110 154 189 2 88.7 60.6 90.8 110 154 189 2 88.7 60.6 90.8 141 198 243 3 95.6 98.6 149 231 324 398 4 121 125 190 295 414 508 5 15 197 242 34 383 598 835 1020 11	247 250 417 653 910 1110 125 255 258 453 682 910 1110 125 250 250 477 653 910 1110 125 250 250 477 653 910 1110 125 250 250 475 741 1029 1255 127 270 272 741 1029 1255 125 270 272 272 172 172 172 172 172 172 172 172
ECTRON DENSITY KP BELOW	0 W MAR 19	0400 0500 0600 0700 0800 0900 1000 11	27 28 28 28 28 26 23 20 10 109 108 25 25 25 20 112 110 109 108 25 25 20 20 108 25 25 20 20 20 20 20 20 20 20 20 20 20 20 20	26.9 27.9 28.8 43.0 66.6 93.7 115 134.5 39.8 37.0 55.2 85.5 120 148 1 140.2 45.9 47.4 70.8 110 154 189 25.6 55.7 50.6 90.8 141 198 243 25.6 55.7 50.0 77.5 149 231 324 398 4 118 121 125 190 295 414 508 514 189 157 242 376 527 646 718 189 194 306 476 666 816 912 12 12 12 31 336 476 666 816 912 12 12 12 31 336 476 666 816 912 12 12 12 12 12 12 12 12 12 12 12 12 1	240 238 242 400 625 872 1064 259 247 250 417 653 910 1110 1258 258 453 711 949 1257 1278 278 278 279 772 1070 1302 1305 259 250 259 453 711 949 1255 128 278 278 279 279 279 120 120 130 130 130 130 130 130 130 130 130 13
ELECTRON DENSITY KP BELOW	0 W MAR 19	0300 0400 0500 0600 0700 0800 0900 1000 11	27 27 28 28 28 28 26 23 26 23 26 23 24 44 44 35 55 8 56.8 56.8 56.8 56.8 56.8 56.8 56.	35.1 26.9 27.9 28.8 43.0 66.6 93.7 115 45.0 34.5 35.8 37.0 55.2 85.5 120 148 1 57.8 44.2 45.9 47.4 70.8 110 154 189 2 57.8 45.9 47.6 70.6 90.8 141 198 243 2 121 92.6 58.7 70.6 70.8 116 180 253 311 398 121 92.6 59.6 98.6 149 231 324 398 4 155 118 121 125 190 295 414 508 5 148 187 189 194 306 476 666 816 9 248 187 189 194 306 376 666 816 9 309 231 230 234 383 598 835 1020 11	322 240 238 242 400 625 872 1064 336 249 247 250 417 653 910 1110 364 268 245 741 1029 1253 378 278 276 472 741 1029 1253 392 287 274 278 490 772 1070 1302 420 287 278 490 772 1070 1302 420 287 278 866 1195 1449 1400 434 313 295 290 547 866 1195 1449 441 328 291 266 898 1136 1549 442 312 296 547 866 1136 1497 441 329 290 547 869 1136 1549 441 331 295 290 547 898
LECTRON DENSITY KP BELOW	0 60 W MAR 19	0200 0300 0400 0500 0600 0700 0800 0900 1000 11	22 212 211 217 238 28 28 28 26 23 26 23 26 23 25 212 211 217 238 201 110 109 108 25 23 23 24 4.4 4.3 4.3 4.3 4.4 5 5.3 5.0 4.4 4.3 4.3 4.3 4.4 5 5.3 5.8 5.3 5.0 4.4 4.3 5.3 6.3 5.0 4.3 4.3 4.3 4.3 4.3 4.3 4.3 4.3 4.3 5.3 5.3 5.3 5.3 5.3 5.3 5.3 5.3 5.3 5	47.9 35.1 26.9 27.9 28.8 43.0 66.6 93.7 115 11 61.4 45.0 34.5 35.8 37.0 55.2 85.5 120 148 1 1 78.7 57.8 44.2 45.9 47.4 70.8 110 154 189 2 101 74.1 56.6 58.7 60.6 90.8 141 198 243 2 129 94.9 77.5 75.0 77.5 149 231 324 398 4 211 155 118 121 125 190 255 414 508 5 267 197 149 153 157 242 376 527 646 7 36 248 197 189 194 306 476 666 816 9 418 309 231 230 234 383 598 835 10.2 11	435 322 240 238 242 400 625 872 1064 453 336 249 247 250 417 653 910 1110 470 364 268 245 471 989 1251 508 378 278 272 472 741 1029 1253 527 392 287 274 278 490 772 1070 1305 527 392 287 274 278 490 772 1070 1305 527 392 287 272 473 344 1400 1305 1440 1400 1307 1440 1400 1307 1440 1400 1307 1440 1400 1307 1440 1400 1400 1400 1207 1440 1400 1400 1400 1400 1400 1400 1400 1400 1400 1400 1400 1400 <td< td=""></td<>
VERAGE ELECTRON DENSITY KP BELOW	0 RICO 60 W MAR 19	200 0300 0400 0500 0600 0700 0800 0900 1000 11	29 27 27 27 28 28 28 28 26 29 28 28 28 28 28 28 28 28 28 28 29 212 212 211 217 238 201 110 109 108 24 4 5 6 6 6 3 5 0 6 4 4 4 4 4 4 3 5 6 8 6 6 8 5 6 6 8 5 6 6 8 5 6 6 8 5 6 6 8 5 6 8 6 8	57.2 47.9 35.1 26.9 27.9 28.8 43.0 66.6 69.7 115 115 73.3 61.4 45.0 34.5 35.8 37.0 55.2 85.5 120 148 1 94.0 78.7 57.8 47.4 70.8 110 154 189 24 12 10.1 44.1 56.6 58.7 60.6 90.8 141 189 24 154 129 94.9 72.5 75.0 77.5 116 180 253 31 31 197 165 121 92.6 95.6 98.6 149 231 324 398 4 251 21 155 118 121 125 190 295 414 508 5 37 267 187 189 194 306 416 508 5 39 336 248 187 189 194 306 446 666 816 9 491 418 309 231 230 234 383 598 835 1020 11	531 435 322 240 238 242 400 625 910 110 531 453 336 249 247 250 417 653 910 1110 552 471 366 268 265 265 453 711 949 1157 592 508 378 278 270 272 471 1029 1253 612 527 392 287 277 278 490 772 100
VERAGE ELECTRON DENSITY KP BELOW	RICO 60 W MAR 19	100 0200 0300 0400 0500 0600 0700 0800 0900 1000 11	24 234 222 212 211 217 238 201 110 109 108 5.8 5.8 5.8 5.8 5.8 5.8 5.8 5	67.2 57.2 47.9 35.1 26.9 27.9 28.8 43.0 66.6 93.7 115 11 86.1 73.3 61.4 45.0 34.5 35.8 37.0 55.2 85.5 120 148 11 10 94.0 78.7 57.8 44.2 45.9 47.4 70.8 110 154 189 2 141 120 101 74.1 56.6 58.7 67.6 16.8 141 154 120 101 74.1 56.6 58.7 67.8 16.8 141 154 120 120 120 120 120 120 120 120 120 120	435 322 240 238 242 400 625 872 1064 453 336 249 247 250 417 653 910 1110 470 364 268 245 471 989 1251 508 378 278 272 472 741 1029 1253 527 392 287 274 278 490 772 1070 1305 527 392 287 274 278 490 772 1070 1305 527 392 287 272 473 344 1400 1305 1440 1400 1307 1440 1400 1307 1440 1400 1307 1440 1400 1307 1440 1400 1400 1400 1207 1440 1400 1400 1400 1400 1400 1400 1400 1400 1400 1400 1400 1400 <td< td=""></td<>

Corrigendum

In the tabulations of average electron density profiles for Puerto Rico, February 1960 in the previous issue (CRPL-F 190 Part A), the average profiles for hours 1900-2300 were inadvertently omitted. The complete table of average profiles is given in this issue, following the average profiles for March 1960.

4.5	0961	2300	22222222222222222222222222222222222222	54.9 70.0 116 1148 1240 2240 3304 470	4 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
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7		2100	24 210 4•7 55•2 856 346 666	100 116 116 1149 1190 1190 1190 1190 1190 1190 1190	50000000000000000000000000000000000000
		2000	196 5•1 50•6 1069 759	77 112.9 12.0 12.0 12.0 13.0 13.0 13.0 13.0 13.0 13.0 13.0 13	00000000000000000000000000000000000000
		1900	201 201 55.0 1507 323 1030	103 139 178 228 292 374 476 604 760	11111111111111111111111111111111111111
1 1 7		1800	24 211 33.•1 1857 1309 6547	136 174 223 286 366 468 596 755 755	011
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GE ELF		1500	109 109 109 1914 1914 1985 7386	143 184 184 236 330 387 495 630 1001	113349 113349 113464
AVERA	0	1400	21 109 2•8 60•8 1083 2003 7611	145 186 239 305 392 500 637 803 1015	113310 123110 1252110
	O RIC	1300	25 109 3.9 58.6 2071 2071 7857	148 189 243 311 398 509 649 1035 1285	11999 11
	PUERT	1200	24 109 4•1 55•3 2066 309 1884	139 178 228 293 375 479 611 777 1221	13273 138273 138273 14931 16664 176664 176664 176664 176664 176664 17667 17667 17667 1767 17
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		700 08	25 219 15.9 5 44 470 312 279 279 279 605 39	2. 3 64 1. 4 82 3. 6 0 1 3. 6 0 1 1. 1 1 1 1. 1 1 2 1. 1 4 2 1. 1 8 0 3 2. 2. 2 7 4 5 2. 8 2 2 7 4 5 2. 8 2 2 7 4 5	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
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ERAGE		200 0	26 226 6•1 3•5 574 320 324	80011 11009 11	00044444444000000000000044000000000000
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	P	TIME	O I G I I S S S S S S S S S S S S S S S S		44444444444444444444444444444444444444

APRIL 1960 - AUGUST 1957

Table 1

Table 2

Washir	ngton, D.	C. (38.7	° N, 7	7.1° W)					April 1960	Washi	ngton, D.	C. (30.7	10 N	77.1° W					March 1960
Time	h'F2	foF2—C	ount	h°F	foFl	h'E	foE	foEs	(M3000)F2	Time	h'F2	foF2-C	ount	h F	foF l	h*E	foE	foEs	(M3000)F2
00 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 22 23	G 410 460 385 470 350 375 360 345 420 (370) (305)	6.25 5.7 5.6 4.9 >4.5 4.0 4.85 5.95 6.0 7.5 7.8 8.6 8.4 8.85 0.95 8.5 8.5 8.5 8.7 9.1 8.7 9.1 8.6 9.5 9.6 9.5 9.6 9.6 9.6 9.6 9.6 9.6 9.6 9.6 9.6 9.6	26 27 25 27 27 28 30 30 30 30 30 30 30 30 30 30 30 30 29 29 29 20 20 20 20 20 20 20 20 20 20 20 20 20	290 300 300 300 300 305 270 250 220 210 220 220 225 230 230 230 230 240 260 255 255 275 275 270 270 270 270 270 270 270 270 270 270	(3.2) 4.0 4.2 4.4 4.7 4.8 4.8 4.0 4.7 4.7	121 114 109 109 109 107 109 109 109 113 121	2.02 2.65 3.35 3.50 3.60 3.70 3.70 3.62 3.20 2.02	>2.7 3.4 3.5	2.65 2.65 2.65 2.62 2.65 2.70 2.95 2.90 2.95 2.75 2.75 2.75 2.75 2.75 2.75 2.75 2.7	00 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 10 19 20 21 22 23	(255) 270 270 290 280 270 (275) (270)	5,6 5,4 5,2 5,0 4,7 4,3 (4,6) 6,5 8,0 9,3 9,9 10,6 10,6 10,8 10,7 10,4 10,1 9,7 7,75 7,75 7,70 6,8	31 31 31 31 31 31 31 31 31 31 31 31 31 3	280 280 285 280 275 280 275 220 210 205 215 220 230 235 240 240 240 240 250 270		119 111 109 109 109 109 109 111 115	2.15 2.70 3.10 3.32 3.45 3.55 3.55 3.50 3.00 2.50 1.85		2.80 2.75 2.75 2.60 2.00 2.80 (2.90) 3.20 3.20 3.20 3.20 3.20 3.20 3.20 3.20

Time: 75.0°W. Sweep: 1.0 Mc to 25.0 Mc in 13.5 seconds.

Table 3

Huancayo, Peru (12.0° S, 75.3° W)
Time h*F2 foF2—Count h*F March 1960 foF1 h F foE foEs (M3000)F2 9.1 8.8 7.55 00 3.08 01 210 18 22 24 19 23 30 31 30 28 29 30 30 26 27 27 26 27 30 14 3.05 3.15 3.20 3.22 3.25 3.20 3.20 3.20 3.20 2.65 2.45 2.35 2.35 2.35 2.35 2.35 2.35 2.25 02 03 04 225 235 6.45 5.35 3.9 5.0 9.25 3.2 230 235 1.40 2.50 (3.10) (3.55) (3.85) (4.00) (4.00) 06 07 08 3.4 2.5 7.0 8.0 9.0 9.0 9.0 9.0 8.0 7.6 7.0 4.7 119 113 245 09 10 12.8 13.2 13.0 12.1 220 111 11 12 13 14 15 16 17 18 19 20 210 205 --- (4,00) --- (3,95) --- (3,65) --- (3,25) --- (2,70) <153 (1,90) 12.1 12.25 200 200 12.6 12.3 200 210 250 275 10.55 9.5 8.7 360 380 325 265 11 12 (2,40) (9,1) 9,3 22 23 240 11

Time: 75.0°W.

Sweep: 1.0 Mc to 25.0 Mc in 13.5 seconds.

Table 5

Narsar	ssuak. 0	Greenland (61.20	N. 45.4	4° W)			Fe	bruary 1960
Time	h*F2	foF2-Co		h*F	foF1	h 'E	foE	foEs	(M3000)F2
00 01 02 03 04 05 06 07 08 09	h*F2	(4.7) (4.8) (4.5) (4.4) (4.4) (4.3) (4.2) (4.5) 5.75 7.05 0.2	13 14 13 11 13 19 22 23 26 26 27	h*F	for I	(122) (125) 121	2.05 2.30 2.60	3.6 3.6 3.0 4.3 4.0 4.1 3.6	(2,70) (2,65) (2,70) (2,75) (2,60) (2,65) (2,70) (2,38) 3,05 3,05 3,05
11 12 13 14 15 16 17 18 19 20 21 22 23		9.6 10.3 10.2 (10.0) (0.0) (7.5) (6.0) (6.6) (4.55) (5.4) (5.8) (5.8)	27 27 20 29 25 25 23 16 14 11 12 16 8			120 120 119 118 119 (125)	2.70 2.80 2.75 2.75 2.70 2.25	3.1 3.2 3.3 3.4 3.2 3.0 3.6	3,00 2,95 3,00 (2,93) (3,10) 3,10 (3,05) (2,68) (2,68) (2,75) (2,75)

Time: 45.0°W. Sweep: 1.0 %c to 25.0 Mc in 13.5 seconds.

Tlme: 75.0°W.

Sweep: 1.0 Mc to 25.0 Mc in 13.5 seconds.

Thule,		nd (76.6°						Fe	bruary 1960
Time	h*F2	foF2-C	ount	h*F	foFl	h*E	foE	foEs	(M3000)F2
00		(4.7)	18	260					(2,82
01		(5.8)	13	255					(2.92
02		(5.0)	13	<265					(2.90
03		(4.6)	1.3	260					(2.82
04		(5,5)	8	250					(2.95
05		(4.6)	16	260					(2.80
06		(5.15)	12	250					(2,80
07		(4.3)	14	250					(2,95
08		(5.0)	19	250		110	1.55	1.9	(3,00
09		(5.0)	21	240		(114)	1.70		(2.98
10		(5,85)	22	250		(119)	1.85		(3,02
11		(6.0)	21	250		<135	1.90	2.2	(3.05
12		(6.35)	22	250		<130	2,00		(3,00
13		(6.1)	22	250		120	1.95	2.2	(3,05
14		(7.0)	23	240		127		2.2	(2.95
15		(6,65)	20	240				2.2	(2.85
16		(7,0)	16	250				2.8	(2,90
17		(6.2)	17	240				3.9	(2,95
18		(7.0)	12	250				3.6	(2,85
19		(5.5)	14	250				3.6	(2.85
20		(5,6)	17	250				-,0	(2.80
21		(5.0)	17	250				1.7	(2.80
22		(5,8)	9	250					(2.95
23		(4,9)	15	260					(2.90

Time: 75.0°W. Sweep: 1.0 Mc to 25.0 Mc in 13.5 seconds.

Table 6

White	Sands, N	ew Mexico	(32,	3º N, 10	06.5° W)			Fe	bruary 1960
Time	h'F2	foF2-C	ount	h*F	foF1	h 'E	foE	foEs	(M3000)F2
00		4.5	29	270					2.8
01		4.3	29	275					2.7
02		4.2	29	280					2.8
03		4.2	29	260					2.8
04		4.0	29	260					2.8
05		3,8	28	200					2.7
06		3.7	27	295					2.7
07		6.0	27	240		<155	1.88		3,1
08		9.2	25	230		109	2,60		3,3
09		10.85	26	225		105	3,10	3.1	3,2
10		11.8	25	220		102	3,40		3,1
11		12.4	27	210		105	3,60	3.8	3,1
12	(270)	12.6	27	205		105	3,70		3.0
13	(270)	12.9	27	215		105	3.70	3.8	2.9
14		12.05	28	220		105	3,60	3.8	2.9
15		12.2	28	220		105	3,40	3.4	2.9
16		12.0	28	230		105	3,00	3.2	2.9
17		11.5	29	225		111	2,40	2.6	3,1
18		10.5	29	215				1.7	3,1
19		8.5	27	215				2.3	3,0
20		6.7	29	220				2,2	3.0
21		5.7	29	230					3.0
22		4.9	29	245					3.0
23		4.55	28	255					2.9

Time: $105.0^{\circ}\text{W}_{\bullet}$ Sweep: 1.0 Mc to 25.0 Mc in 13.5 seconds.

Grand Bahama	1. (26.6° N, 7	3.2° W)			Fe	bruary 1960	Okinaw	a I. (2	5.3° N, 12	7.80	E)				F	ebruary 1960
Time h'F2	foF2—Count	h*F	foF1 h°E	foE	foEs	(M3000)F2	Time	h°F2	foF2—C	ount	h*F	f oF l	h*E	foE	foEs	(M3000)F2
00 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23	5,85 28 5,8 27 5,55 28 5,15 28 4,7 28 4,15 28 4,15 28 6,45 28 9,2 28 10,5 27 11,9 27 12,2 28 (12,3) 28 (12,3) 28 (12,3) 28 (12,3) 28 (12,0) 27 (11,4) 27 (11,2) 27 (11,2) 27 (11,2) 27 (11,2) 27 (11,2) 27 (11,2) 27 510,0 28 >9,0 28 (8,0) 28 6,8 28 6,2 27 5,95 24	250 260 255 250 230 265 240 225 220 220 215 215 215 220 220 220 220 220 220 220 220 220 22	<165 110 110 107 106 110 109 110 110 110 110 <150	2.00 2.60 3.12 3.48 3.70 3.80 3.60 3.40 3.10 2.60	2.8	2,90 3,00 2,98 3,05 2,95 2,95 3,15 3,20 3,15 3,02 2,90 2,90 2,90 (3,05) (3,15) (3,02) 3,00 2,95 2,95	00 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23	(280)	10,5 9,3 7,3 6,8 >5,8 4,4 (4,05) 5,7 9,5 12,0 13,5 14,4 (16,0) >15,4 (16,0) >15,9 >15,5 >14,3 >13,4 >13,4 >13,4 >11,3	28 27 27 27 28 26 28 28 28 28 27 26 25 26 25 26 27 26 27 26 27 26 27 26 27 27 28 28 28 28 28 28 27 27 27 28 28 28 28 28 28 28 28 28 28 28 28 28	240 235 240 235 240 235 245 (330) 270 235 235 230 220 210 220 230 230 235 235 230 235 230 235 230 235 230 230 230 230 230 230 230 230 230 230		110 109 108 (109) (111) 110 (110) 116	3.88 3.85 3.78 (3.60) 3.35 (2.80)	>3.0 >3.5 3.7 4.2 3.8 3.4 3.2	(2, 95) (3, 02) (3, 00) (3, 10) (2, 95) (2, 65) 2, 90 3, 12 3, 12 3, 12 3, 08 2, 90 2, 95 2, 80 2, 90 2, 95 3, 00 (2, 95) (2, 95) (2, 95)

Time: 75.0°W. Sweep: 1.0 Mc to 25.0 Mc in 13.5 seconds.

Time: 135.0°E. Sweep: 1.0 Mc to 25.0 Mc in 13.5 seconds.

Table 9

				2.01	0.10				
Talara	, Peru	4.6° S, 8	1.30	W)				Feb	ruary 1960
Time	h'F2	foF2-C	ount	h°F	f oF l	h*E	foE	foEs	(M3000)F2
00		12.2	14	230				3.0	2,92
01		>11.05	20	230				3.8	3, 12
02		9.35	22	225					3, 12
03		7.65	22	230					3, 18
04		6.45	22	<235				1.7	3, 10
05		5.9	22	230					3,18
06		6.1	21	245				1.9	3,02
07		7.6	25	<260		129	2,20	2.4	3.00
- 08		10.9	27	240		119	3,00	3.2	2.85
09		13.0	26	220		115	3,50		2,80
10		13.6	26	215		112	3,80		2,58
11		14.0	27	210		111	4.00		2,45
12		14.0	28	<205		111	4.10		2.30
13		14.0	28	200		111	4.05		2.25
14		>14.05	28	200		111	4.00		2.30
15		>14.0	27	210		111	3.90	4.2	2,35
16		13.9	28	215		111	3,55	3.7	2.35
17		13,55	28	230		115	3.15	4.1	2,30
18		13.45	28	260		(125)	2.50	3.5	2.40
19		13.3	29	280				3.2	(2,42)
20		>13.2	28	350				2.0	2.30
21		13,15	18	330					2.45
22		>13.05	14	280				1.8	(2.75)
23		(12.8)	16	240				2.1	(2,82)

Time: 75.0°W. Sweep: 1.0 Mc to 25.0 Mc in 13.5 seconds.

Table 11

		4.6° S, 8			4.54				(10000100
[ime	h'F2	foF2—C	ount	h *F	foF1	h°E	foE	foEs	(M3000)F2
00		>12.0	13	245				3.9	2.95
01		9,6	15	245				4.0	2.95
02		8.4	19	240				3.2	2.92
03		7.6	23	240				3.8	3.05
04		6.4	25	240				4.0	3,20
05		5.3	29	240				4.0	3.10
06		4.9	27	265				3.2	2.75
07		8.9	29	260		<129	2.35	3.5	2.90
08		11.9	31	240		115	3.12	3.6	2.90
09		13.3	30	225		111	3,60	3.8	2.80
10		13.6	30	215		111	3.90	4.3	2,55
11		14.0	30	210		111	4.10		2.30
12		13.6	30	210		111	4.15		2.18
13		13.5	30	210		111	4.12		2.15
14		>13.5	30	205	(6.5)	111	4.02		2,20
15		13.6	31	210		111	3.80	4.5	2.25
16		13.8	31	225		111	3.50	4.0	2.32
17		13.3	31	<250		<119	3.18	3.9	2.38
18		>13,2	31	270		129	2.50	3.5	2.40
19		>13.3	31	280				3.3	(2,50
20		13.2	31	320				2.0	2,55
21		>13.0	23	310					(2.55
22		>13.0	19	(280)				2.7	2.60
23		12.7	18	265				3.5	2.70

Time: 75.0°W. Sweep: 1.0 Mc to 25.0 Mc in 13.5 seconds.

Table 10

Table 8

Grand	Bahama :	[. (26.6°)	V, 78.	2° W)				J	anuary 1960
Time	h¹F2	foF2C	ount	h*F	foFl	h°E	foE	foEs	(M3000)F2
00		5.3	29	260					2.98
01		5.2	31	255					3.00
02		4.95	30	250					3.00
03		4.7	27	260					3.00
04		4.45	30	255					2.85
05		4.35	30	275					2.78
06		4.5	31	270					2,85
07		6.4	31	250		<170	1.85		3,10
08		9.8	31	230		<115	2,65		3,20
09	-	11.2	31	230		110	3,05	3.2	3,20
10		11.9	29	220		108	3,40	3.7	3,10
11	ŀ	12.2	28	210		108	3.65	4.0	3,00
12		12.0	31	210		110	3,80		2.95
13		11.8	31	220		109	3,80		2.90
14		11.7	31	230		109	3.70		2,90
15	f	(11.7)	31	230		109	3,38		(2.85)
16		(11.7)	30	235		110	3,00		2.95
17		(11,15)	30	230		<120	2.40	2.4	(2,92)
18		>9.1	30	220				2.8	(3,00)
19		8.2	31	220				2.1	3,00
20		7.6	29	240				2.6	3,05
21		6,25	30	240					3.05
22		5.9	29	250					2.90
23		5.4	29	265					2,90

Time: 75.0°W.
Sweep: 1.0 Mc to 25.0 Mc in 13.5 seconds.

Table 12

Time	h*F2	foF2-C	ount	h °F	foF l	h°E	foE	foEs	(M3000)F2
00	430	(6.0)	29	240	4.5	101	2.95	4.8	(2.50
01	440	(5.7)	25	235	(4,4)	101	2,95	3.5	(2,50
02	445	(5,9)	27	240	(4.4)	101	2.95	4.0	(2,50)
03	445	(5.85)	28	245	4.3	101	2.95	3.0	(2.40)
04	435	(5.9)	26	240	4.3	101	2.90	3.1	(2.40)
05	460	(5.9)	25	230	4.2	101	2.90	3.0	(2.40)
06	460	(5,65)	28	230	4.2	103	2.90		(2,30)
07	(470)	(5.85)	24	230	(4.2)	103	2,95		(2,30)
08	505	(5,2)	24	240	(4.2)	103	2.92	3.2	(2,25)
09	520	(5.4)	21	230	4.1	103	2,95		(2,28)
10	(540)	(5,05)	10	245	(4.2)	103	3,00		(2,20
11	630	(5,1)	17	260	4.2	101	3.05	3.8	(2.30
12	(550)	5.2	20	265	(4.3)	103	3,20		2.30
13	(615)	5.4	23	<260	4.4	101	3.05		(2.45)
14	(480)	5.5	26	260	(4.6)	103	3,05	4.1	2,60
15	520	6.0	27	250	4.3	103	3,00		2,50
16	430	(6.4)	27	250	4.3	103	2.95	3.2	(2.50
17	470	(6,25)	26	250	4.4	103	2.90		(2.40)
18	545	(5.9)	21	240	4.3	103	2.95		(2.50)
19	510	(5.7)	28	250	4.2	103	2.95	3.5	(2.60)
20	(470)	(5.7)	26	250	4.5	103	3,05	3.4	(2.50)
21	(480)	(5.8)	24	245	4.7	104	2.98	5.0	(2,60)
22	(400)	(6.15)	24	240	(4.5)	101	2.95	4.4	(2.70)
23	450	(6.0)	27	<245	(4.5)	101	2.92	3.6	(2.60)

Time: 0.0°. Sweep: 1.0 Mc to 25.0 Mc in 13.5 seconds.

Table 14

Resol	ute Bay.	Canada (7	74.70	N. 94.9	10 W)			De	cember 1959	Inver	ness, Sco	tland (57	.4º N	, 4.2° V	()			Dec	ember 1959
Time	h'F2	foF2-C		h*F	foF1	h*E	foE	foEs	(M3000)F2	Time	h'F2	foF2-0	ount	h *F	foF1	h °E	foE	foEs	(M3000)F2
00 01 02 03 04 05		4.0 3.9 3.9 4.0 4.0 3.0	31 31 31 31 31 31 30	270 290 290 290 300 300					2.60 2.55 2.55 2.55 2.55 2.55	00 01 02 03 04 05		>2.5 2.4 2.4 2.5 2.6 2.7	31 30 31 31 30 31	330 350 330 320 300 300				<1.1 <1.2 (1.1) (1.2) <1.1 (1.1)	2,40 2,45 2,50 2,50 2,55 2,60
06 07 08 09 10 11		3.3 4.0 3.6 4.2 5.0 6.0	30 30 30 31 31 31 31	310 300 295 300 290 275 260			1,25		2,50 2,60 2,60 2,55 2,55 2,60 2,70	06 07 08 09 10 11 12		2.8 >2.5 3.7 6.2 8.6 10.2 11.0	31 31 31 31 31 31 31	300 270 250 240 230 240 240		115 110 120 120	1.90 2.25 2.40 2.50	<1.6 <1.6 <1.5	2,65 2,70 2,70 3,00 3,10 3,10 3,10
13 14 15 16 17 18 19 20 21 22 23		5.8 5.9 6.0 6.0 5.2 5.1 4.7 4.8 4.8 4.4	31 31 31 31 31 31 31 31 31 31 31	255 250 260 260 270 285 270 280 200 270 280			1,30		2,75 2,75 2,55 2,60 2,50 2,50 2,50 2,50 2,50 2,60 2,60	13 14 15 16 17 18 19 20 21 22 23		11.3 11.6 10.5 >8.3 >6.5 5.0 3.6 3.0 >2.8 2.7 >2.6	31 31 31 31 31 29 30 30 28 29 30	230 230 220 210 220 240 250 270 300 310 <300		120 120 120 120	2.50 2.30 2.00	<1.6 <1.6 <1.6 <1.6 <1.6 <1.6 <1.6 <1.6	3.10 3.10 3.10 (3.10) 3.00 2.90 2.80 2.70 2.66 2.50
Time ·	00 U00									Tlme;	0.00								

Time

00

23

h*F2

230 240

230 230

Time: $90.0^{\circ}\text{W}_{\bullet}$ Sweep: 1.0 Mc to 25.0 Mc in 27 seconds.

Table 15

De Bilt, Holland (52.1° N, 5.2° E) December 1959 (M3000)F2 foF2-Count foF1 h *E foE fEs 3.0 3.2 2.7 2.6 2.8 2.6 2.4 3.4 6.5 9.0 10.5 11.2 11.2 <350 <345 <340 <320 30 29 30 29 27 30 (300)<290 <300 255 215 31 31 31 31 31 31 31 31 31 2.0 2.4 2.B 2.9 3.0 2.8 2.6 2.2 125 125 120 120 125 135 220 220 3.0 220 220

Time: 0.0°. Sweep: 1.4 Mc to 16.0 Mc in 40 seconds.

3.1 3.2 3.0

10.3 9.0 >6.8 4.9 4.2 3.4

Table_17

220 205

205 215

(310) 28

30 29 235 250

30 27 (260) (300)

28

Brisbane, Australia (27.5° S, Tlme h°F2 foF2—Count 152,9° E) December 1959 Time h *E foE foEs (M3000)F2 9.0 2.75 3.4 3.4 2.6 2.9 1.3 1.8 3.2 2.70 2.70 2.70 2.70 2.70 2.70 2.85 2.70 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23 8.5 8.0 25 25 24 23 23 24 22 20 280 285 7.6 6.9 6.9 7.2 7.0 8.4 9.0 9.9 270 260 1.00 2.60 3.15 250 240 5.2 5.4 5.5 5.8 5.7 5.6 5.6 5.4 240 <230 4.0 3.55 3.80 3.90 >4.00 4.4 2.70 220 215 20 23 24 24 25 26 26 24 23 22 23 2.60 4.4 4.7 4.5 4.4 4.2 4.2 4.0 4.4 4.4 4.1 3.7 10.2 (225) 4.00 4.00 3.95 3.75 3.40 2.90 2.15 10.8 2.60 (240) 230 230 240 250 265 10.7 11.0 2.60 10.0 9.2 8.5 4.9 2.70 2.75 2.65 2.55 >0.8 9.0 9.2 9.8 300 320 2.55 2.55 23 23 320 300 3.5 2.60 10.0 23 290 2.75

Time;

150.0°E. 1.0 Mc to 16.0 Mc in 1 minute 55 seconds.

Time: 0.0° . Sweep: 0.67 Mc to 25.0 Mc in 5 minutes, automatic operation.

rable 16

Slough	n, Englan	d (51.5°	N, 0.	6° W)				De	cember 1959
Time	h'F2	foF2-C	ount	h F	foF l	h "E	foE	foEs	(M3000)F2
00		3.2	27	<300				<1.3	2,50
01		3.3	26	300				(0,9)	2,50
02		3.1	26	<315				<1.0	2,50
03		2.8	26	<300				1.0	2,60
04		2.7	25	280				<1.2	2.70
05		2.6	26	<260				<1.6	2,80
06		2.5	23	<235				<1.6	2.70
07		2.9	26	<250				<1.6	2.75
08		5.8	26	230		115	1.75	1.9	3.10
09		8.5	24	225		120	2.30	2.4	3.30
10		(10.3)	25	230		120	2.60	2.8	(3,25)
11		>11.3	27	225		120	2.80	2.9	(3,20)
12		11.7	26	225		120	2.85	3.0	3,20
13		(11.2)	27	220		120	2.75		(3,10)
14		11.1	29	230		125	2.60		3,10
15		10.6	26	230		130	2.20	2.4	3,20
16		9.4	25	215			1.75	1.7	3,20
17		7.5	28	220				<1.6	3.15
18		5.8	28	220				<1.6	3.05
19		5.0	27	<240				<1.6	3.00
20		3.8	28	<240				<1.6	2.90
21		3.4	28	<245				<1.6	2.65
22		3.2	28	<270				<1.6	2.60
23		3.1	28	<270				<1.6	2.60

Tlme. 0.00

0.65 Nc to 25.0 Mc in 5 minutes, automatic operation.

Table 18

Pole	Station (90.0° S)						Dec	ember 1959
Time	h°F2	foF2—Co	unt	h*F	f oF l	h °E	foE	foEs	(M3000)F2
00	460	(5.7)	23	245	(4.3)	103	2,92	4.2	(2,50)
01	510	(5.5)	24	250	(4.3)	103	2.95	4.2	(2,40)
02	400	(5.4)	25	250	4.2	103	2.95	4.2	(2,35)
03	480	(5.3)	23	245	4.2	103	2.90	3.3	(2,30)
04	470	(5.5)	25	250	4.2	101	2.90	3.2	(2,40)
05	500	(5.4)	22	250	4.2	103	2.95		(2,30)
06	510	(5.45)	24	240	(4.0)	103	2,92		(2,30)
07	510	(5.4)	21	240	(4.1)	103	2.95		(2,25)
08	525	(5.0)	18	240	(4.1)	103	3.00	3.3	(2,30)
09	520	(4.6)	17	230	(4.1)	103	(2.95)	3.4	(2,25)
10	575	(4.9)	17	240	(4.0)	104	3.00	4.7	(2.15)
11	G	<4.2	20	255	4.2	103	3,00	3.2	G
12	725	4.6	10	280	4.1	102	3.10	3.8	G
13	540	5.05	18	265	(4.3)	103	>3.00		(2.40)
14	530	5.2	23	260	4.3	103	3.05		2.40
15	445	(5.95)	24	255	4.3	103	2.95		(2.50)
16	460	(6.2)	23	250	(4.3)	103	2.95		(2,50)
17	505	(5,85)	20	245	(4.2)	105	2.98		(2,40)
18	525	(5.45)	20	240	4.4	103	(2.95)	3.2	(2,30)
19	460	(5.5)	23	2 50	(4.2)	103	2.95	3.4	(2,60)
20	450	(5.55)	22	240	(4.3)	103	2.95	3.7	(2.50)
21	440	(5.7)	27	240	(4.3)	103	2,95	5.0	(2,65)
22	440	(5.65)	26	250	(4.5)	103	3.00	4.4	(2.60)
23	460	(5.8)	24	240	(4.3)	103	2.90	3.8	(2,58)

Time: 0.0°. 5weep: 1.0 Mc to 25.0 Mc in 13.5 seconds.

Pole	Station (90.0°S)						No	vember 1959	Lulea	Sweden							0	ctober 1959
Time	h*F2	foF2—Cou	nt	h*F	f oF l	h ®E	f oE	foEs	(M3000)F2	Time	h¹F2	foF2-C	ount	h F	foF1	h®E	foE	foEs	(M3000)F2
00	410	(5,75)	20	250	(4.4)	103	2,90	3.2	2,65	00		(5.0)	19	325				2.9	(2.7)
01	425	(5,9)	26	255	4.1	103	2,80	3.1	(2,60)	01		(4.4)	23	335				2.0	2.7
02	430		24	250	(4.1)	103	2,80	2.9	(2,50)	02		(4.3)	21	320				-	2.6
03	420		21	250	(4,1)	103	2,80		(2,50)	03		(4.5)	19	310					(2.75)
04	440		22	255	4.0	103	2,80	2.8	(2,42)	04		(3.5)	21	300					2.8
05	410		20	255	4.0	105	2.78	-	(2.55)	05		3.5	21	275					2.8
06	470		23	245	3.9	103	2.80	2.8	(2,45)	06		4.8	21	260			1.5		3.0
07	530		11	245	4.0	103	2.80		2,25	07		6.1	23	250			1.9		3,1
08	455	(5.6)	13	230	3.9	104	(2.80)	3.2	(2.50)	08		7.2	27	250		125	2.3		3.1
09	520		17	240	4.0	103	2.95	3.2	(2.45)	09		8.5	26	240		120	2.5		3,2
10	G	4.85	16	240	4.0	103	3.00	4.2	2.50	10		9.6	27	240		115	2.7		3,1
11	(570)	4.6	17	(270)	4.0	101	3.02	3.6	2.30	11		10.1	28	235		115	2.8		3,1
12	G	4.6	18	265	(4.0)	103	2.95	4.3	2,50	12		10.4	30	240		120	2.8		3,1
13	(540)	5.2	18	270	(4.4)	101	(3.00)	3.4	2.70	13		10.4	30	235		120	2.7		3.1
14	(500)	5.5 1	18	265	(4,2)	103	2.98		2.75	14		9.8	29	240		120	2.4		3.2
15	420	5,55 2	22	260	(4.1)	103	2.90		2,55	15		9.5	29	235		130	2.2		3.2
16	(430)	6.2 2	20	260	(4.0)	105	(2.90)	3.0	2,60	16		8.7	25	230			1.8		3.2
17	(430)	(5,7)	15	265	4.1	103	2,95		2,62	17		8.4	20	235			Е		3,2
18	440	(5,5) 1	7	255	(4.0)	103	(2.78)		(2.65)	18		7.0	21	240					3,05
19	460	(5.5) 1	17	250	4.2	103	(2.90)		(2.72)	19		5.6	22	250					3,0
20	(430)	(5.7) 2	22	250	4.2	103	2.85	3.0	(2.80)	20		(5.1)	15	260				2.0	(2.9)
21	(420)	(5.8) 2	21	245	4.2	103	2.85	3.5	(2.70)	21		(5.0)	17	280				>3.0	(2.8)
22	(375)	5.9 2	20	260		101	(2,88)	3.6	2.72	22		(5.0)	16	310				>2.4	(2.7)
23	(395)		25	260	(4.5)	103	2.88	3.3	(2.70)	23		(5.2)	18	310				<1.4	(2.8)
Time										Timor	15 005								

Time: 0.0°. Sweep: 1.0 Mc to 25.0 Mc in 13.5 seconds.

Table 21

				1 00	16 61				
Lvckse	le. Swede	n (64.6	° N. 10	8.8° E)				.0	ctober 1959
Time	h*F2	foF2-		h F	f oF 1	h°E	f oE	fEs	(M3000)F2
00		4.5	25	340				3.0	2.4
01		4.3	25	310				2.9	2.4
02		4.2	24	320				2.9	2.4
03		4.1	22	295			0.80	2.6	2,5
04		3,3	27	295				2.4	2.4
05		3.3	26	285			(0.75)	2.5	2.4
06		4.2	25	265			0.90	2.8	2.6
07		5.6	27	250		115	1.70	3.9	2.8
08		7.1	28	240		120	2.05	4.5	2.8
09		8, 1	30	240	4.0	<120	2.40	4.7	2.9
10	(265)	8.9	31	240	4.2	<120	2.55	4.8	2.9
11	(260)	9,9	30	230	4.2	<115	2.70	4.4	2.8
12	(270)	10.1	30	235	4.6	110	2.70	4.5	2.9
13	(340)	10.5	29	230	(4.2)	115	2,60	4.3	2.9
14		10.0	31	235		115	2.40	4.5	2.9
15		9.6	31	235		125	2.15	3,5	2.9
16		8.8	30	235			1.80	3.5	2.8
17		8.3	27	230			1.20	4.0	2.8
18		7.7	27	235			1.00	4.0	2.8
19		6.2	26	245			0.65	3.4	2.8
20		5.4	24	255				3.2	2,7
21		4.6	22	290				3.2	2.6
22		4.6	23	300				3.4	2.5
23		4.5	23	310				3.3	2.5

Time: 15.0°E.
Sweep: 0.33 Mc to 20.0 Mc in 3 minutes, automatic operation.
Occasionally, 1.4 Mc to 16.0 Mc in 6 minutes, automatic operation.

Table 23

	5	nland (60,	50 N	24 69	E)			Sep	tember 1959
Time	h*F2	foF2—Co		h'F	f oF 1	h E	f oE	foEs	(M3000)F2
00		(5,8)	3						
01		(4, 3)	3						
02		(5.0)	3						
03		(3,7)	1						
04		(3,7)	1						
05		(4.3)	3						
06		(5.1)	9						(2,85)
07		5.2	16						2.95
08		5.9	23						2.90
09		6.3	23		4.3				2.85
10		6.8	27		4.8				2.80
11		6.7	24						2.70
12		7.2	25		4.9				2,80
13		7.8	25						2.80
14		7.9	26						2.85
15		7.7	27						2.90
16		7.8	26						2.85
17		8.0	21						2,90
18		8.0	17						2,90
19		(7.7)	7						(2,85)
20		(7.5)	8						2,80
21		(8,0)	6						2.90
		(6,6)	4						2.70
22		(6,0)	4						
23		(0,0)	4						

Time: 30.0°E. Sweep: 1.0 Mc to 25.0 Mc in 1 minute.

Time: 15.0°E . Sweep: 0.65 Mc to 25.0 Mc in 5 minutes, automatic operation.

Table 22

El Cer		xico (19.							ctober 1959
Time	h*F2	foF2—C	ount	h'F	foF1	h*E	f oE	foEs	(M3000)F2
00		5,8	28						3,00
01		5.3	27						2,95
02		5.2	28					2.4	3.10
03		4.9	27						3,10
04		4.2	27					1.7	2.80
05		4.2	26						2.70
06		4.2	25					2.6	2.79
07		7.6	24				2.00	2.3	3.30
08		10.2	24				2.70	3.0	3.35
09		11.4	27				3,20	3.6	3.20
10		12.0	27				3.60	3.9	3.10
11		13.0	26				3.80	4.2	3.00
12		12.8	27				3.90	4.0	2.9
13		13.0	27				3,80		2,80
14		13.6	28				3.70	4.0	2.8
15		13.9	30				3,50	4.0	2.9
16		13.4	27				3.20	4.0	2.90
17		13.0	27				2,60	3.7	3.00
18		12.0	26					3.8	3.00
19		10.6	28					3.0	3.00
20		8.6	28					2.5	3.00
21		7.2	29					2.5	2.9
22		6.6	27						2.90
23		6.2	29					3.0	2.9

Time: 90.0°W. Sweep: 1.0 Mc to 25.0 Mc in 18 seconds.

Table 24

(M3000)F	foEs	foE	h ªE	f oF 1	h*F	Count	foF2-0	h F2	Time
2.45	<1.3				320	30	4.9		00
2.40	<1.2				320	29	4.6		01
2.40	<1.1				325	29	4.2		02
2.50					310	28	4.1		03
2.50		E			300	30	3.8		04
2.80	1.6	1.60			290	30	4.4		05
2,95		2,20			255	30	5.3		06
2.90	2.6	2,60		(4.2)	245	30	6.2	300	07
2.80	3.0	3.00		4.6	230	30	6.8	355	08
2,80	3.4	3,20		4.8	225	30	7.2	325	09
2.80	3.4	3.40		5.0	220	30	8.0	340	10
2.80		3,45		(5.4)	220	30	8.4	320	11
2.75		3,45		(5,3)	220	30	9.0	335	12
2,80		3.40		(5.3)	230	30	9.1	310	13
2.85	3,2	3.20			235	30	9.0	(300)	14
2.85		3.00			240	30	8.9	(300)	15
2.90		2.60			245	30	8.4		16
2,90	2.2	2.15			250	30	8.6		17
2.90	2.0	1.40			250	30	8.2		18
2.80	1.8				250	30	7.8		19
2.80	<1.4				250	30	7.0		20
2.70	<1.3				265	30	6.0		21
2.60	<1.4				290	30	5.4		22
2.55	<1.4				300	30	5.0		23

Time: 30.0°. Sweep: 1.0 Mc to 25.0 Mc in 15 seconds.

Table 25

El Cer	rillo, Mexico (1º		September 1959				
Time		-Count h*F	foF1	h'E	foE	foEs	(M3000)F2
00	7.2	29					2,80
01	6.7	29				2.0	2,85
02	6.4	29				1.3	2,80
03	5.8	29				2.0	2.70
04	5.5	29				1.9	2.65
05	5.3	29				2.1	2.60
06	5.5	29				2.6	2.70
87	7.9	29				3.5	3,20
08	9.8	30				3.8	3.20
09	10.8	29				4.0	3.00
10	11.4	30				4.4	2.85
11	12.0	29				4.4	2.75
12	13.2	29				4.5	2.70
13	13.4	29				4.4	2.70
14	13.6	30				4.3	2.75
15	13.4	27				4.4	2.75
16	13,4	27				4.2	2.80
17	12.8	27				3.9	2.85
18	11.6	26				3.7	2,90
19	11.0	27				3,2	2.90
20	9, 2	28				2,2	2.00
21	8.3	29				1.9	2.75
22	7.9	29					2.70
23	7.4	29				2.6	2 70

Time: 90.0°W. Sweep: 1.0 Mc to 25.0 Mc in 18 seconds.

Table 27

Lwiro.	Belglan	Congo (2	3º S.		E)				ember 1959
Time	h*F2	foF2→C	ount	h*F	f oF 1	h'E	foE	foEs	(M3000)F2
00		>12.9	26	218					2,04
01		11.2	23	220				(1.6)	2,82
02		10.3	22	235				(1.6)	2,90
03		10.4	22	235				(1.6)	2,95
04		9.9	22	235				(1.6)	3.06
05		8.4	23	230				(1.7)	3,23
06		7.8	30	250			E	(2.0)	3.17
87	250	10.5	29	245		121	2.75	3.2	3,19
08	250	12.0	26	230		113	3,35	4.0	3.07
89	(270)	12.8	28	220		111	3.75	4.4	2.89
10	(275)	13.4	38	215		109	4.00	4.4	2.74
11		14.0	30	210	(5.4)	109	4, 15	4.4	2,62
12	360	14.0	30	210	(5.5)	109	4,20		2,58
13	390	14.2	30	210	(5.4)	109	4.10		2.58
14	430	14.2	30	210	(5.0)	111	4.00		2.46
15	430	14.1	29	220		111	3,80		2,43
16	425	14.2	29	240		113	3,30	3.7	2.42
17		14.6	29	255		119	2.70	(3.2)	2,50
18		(14.8)	29	290				(3,0)	(2,47)
19		>13.4	29	340				(1.9)	<2.76
20		>13,2	30	290				(2,4)	(2,61)
21		>13.6	29	230				(1.8)	(3,30)
22		>13.4	30	210				(1.6)	<3.23
23		>13.4	30	210				(1.6)	(3,02)

Time: 30.0°E. Sweep: 1.25 Mc to 20.0 Mc in 3 minutes.

Table 29

Lycks	ele, Swed	Į.	August 1959						
Time	h*F2	foF2→(Count	h*F	foF1	h *E	foE	fEs	(M3000)F2
00		5.2	30	350				4.0	2.4
01		5.2	27	340				3,4	2.4
82		5,0	28	350				3.2	2.4
03	455	4.7	29	335	2.8		1,45	3.4	2.4
04	450	5.0	28	290	3.3	130	1.80	3.7	2.4
05	400	5.6	29	260	3.7	120	2.30	4.3	2.6
06	400	5.8	29	250	4.2	110	2,55	5.0	2.5
07	450	6.0	29	240	4.6	105	2.90	5.0	2.6
08	390	7.0	20	235	5.0	105	3.15	5.6	2.6
09	420	7.3	29	235	5.0	105	3,25	5.2	2,6
10	400	7.0	30	230	5.2	105	3,40	5,1	2,55
11	400	7.2	28	220	5.4	100	3,50	6.0	2.5
12	390	7.2	29	220	5.4	100	3.50	5.5	2.6
13	400	7.2	30	220	5.3	100	3.50	5.0	2.6
14	375	7.3	30	230	5.3	100	3.40	5.5	2.6
15	360	7.1	29	230	5.0	105	3.25	5.7	2.6
16	350	6.9	29	235	4.9	105	3,05	5.0	2.6
17	335	6.9	29	245	4.5	110	2.70	4.8	2.7
18	320	6.6	30	255	4.2	110	2.40	4.5	2.7
19		6.6	29	265		130	1.90	4.0	2.7
20		5.8	30	285			1.55	3,2	2.6
21		5.2	30	290			1.35	3.1	2.6
22		5.2	29	300				3.0	2.4
23		5.3	28	330				3.1	2.4

Time: 15.0°E, Sweep: 0.33 Mc to 20.0 Mc in 3 minutes, automatic operation. Occasionally, 1.4 Mc to 16.0 Mc in 6 minutes, automatic operation.

Singa	pore, Br	itish Mala			Sep	tember 1959			
Time	h'F2	foF2—C	ount	h*F	foF l	h *E	foE	foEs	(M3000)F2
00		11.5	25	220				<1.5	2.80
01		10.5	28	245				<1.3	2.85
02		9.4	29	245				<1.3	3,00
03		8,2	28	235				<1.2	3,00
04		7.0	28	235				1.3	3.05
05	1	6.0	26	230				<1.3	3,05
06	1	6.8	29	265		110		1.4	2.90
07		10.7	29	250		120	(2.00)		2.95
08	1	13.1	28	235		115	3,45	3.6	2.75
09	1	13,6	28	228		110	3.00	4.2	2.45
10	1	13.0	27	210		110	4.10	4.2	2.15
11		13,2	27	205		110	4.20		2.05
12		13.0	27	200		110	4.25		2.05
13		12.0	27	210		110	4.20		2.10
14		13.1	28	218		110	4.05		2.10
15		13.0	26	215		110	3.75		2.15
16		13.0	24	240		110	3.35		2.15
17		13.4	29	255		115	2.70		2,20
18		13.5	29	290		100		1.5	2,20
19	1	>13.0	27	375				2.4	2.15
20		>13.0	17	360				<1.7	(2,25)
21		(14.0)	9	275				<1.7	
22		>13.6	16	235				<1.7	2.70
23		12.7	14	215				<1.6	2.90

Time: $105.0^{\circ}\text{E}_{\star}$ Sweep: 0.67 Mc to 25.0 Mc in 5 minutes, automatic operation.

Table 28

				2.74	0.40 =0				
_Falk1	and ls. (51.7º S,	57.80	W)				Sep	tember 1959
Time	h'F2	foF2—(ount	h*F	foFl	h'E	foE	foEs	(M3000)F2
00		5.7	30	340				_	2,30
01		5.7	29	325					2.40
02		5.6	28	305					2.45
03		5.4	28	305					2.45
04		5.1	29	300					2.35
05	}	5.1	28	325					2,35
06	1	6.5	29	255		135	E		(3,10)
07	1	8.8	29	235		120	2,00		3.15
- 08		10.2	29	235		115	2,60	3.3	3,05
09		11.3	29	230		110	3,10	3.6	2.95
10		12,7	28	235		105	3,40	3.9	2,95
11		13.0	29	235		105	3.50	4.1	2.95
12		13.0	29	240		105	3,50	4.0	2.90
13		12.6	29	235		105	3.50	4.0	2.90
14		11.6	29	240		105	3.30	3.5	2,95
15	1	10.9	29	245		110	3,10		2,95
16		10.4	29	245		115	2.60	3.1	2.95
17		9.4	29	245		130	2.05	2.8	3.05
18		8.4	29	235				2.4	3,00
19		6.8	29	240				2.3	2.75
20		6.2	29	250				<1.7	2,50
21		6.3	29	275				<1.6	2.50
22		6.2	29	<305				<1.4	2.40
23		6.0	29	<350				<1.4	2.35

Time: 60.0^{9} W. Sweep: 0.67 Mc to 25.0 Mc in 5 minutes, automatic operation.

Table 30

	a, Sweden								August 1959
Time	h*F2	foF2→(ount	h*F	f oF l	h*E	foE	fEs	(M3000)F2
00		5.4	28	310				3,2	2,50
01		5.0	29	310				3.6	2.40
02		4.0	29	315				3.5	2.50
03		4.6	27	310		110	0.80	3.4	2.40
04	380	4.6	30	300	2.9	110	1.50	3.4	2.60
05	425	5.4	30	260	3.8	105	2.00	4.0	2,70
06	405	6.0	31	250	4.2	105	2.45	4.0	2,60
07	400	6.6	30	240	4.7	105	2,90	4.3	2,65
08	410	6.9	30	240	4.9	105	3,20	4.0	2.70
09	390	7.3	31	235	5.1	105	3,35	4.4	2.70
10	390	7.5	31	225	5.3	105	3,50	4.5	2.70
11	395	7.7	31	225	5.5	105	3.60	4.4	2.70
12	395	7.3	31	220	5.5	105	3.60	4.4	2.70
13	405	7.4	31	220	5.5	105	3.60	4.0	2.60
14	390	7.7	30	230	5.4	105	3.55	3.9	2.65
15	390	7.6	29	230	5.3	105	3.40	3.5	2.70
16	365	7.4	31	240	5.0	105	3.25	4.0	2.70
17	345	7.4	30	250	4.7	110	2.85	4.0	2.70
18	(315)	7.5	31	260	4.0	110	2.50	4.0	2,00
19		7.3	31	265		110	1.80	4.0	2.80
20		7.3	31	265		110	1.40	2.7	2.80
21		7.0	30	270		125	0.70	2.5	2.70
22		6.7	27	280				2.6	2,60
23		5.9	28	295				3.2	2.50

Time: 15.0°E.
Sweep: 0.3 Mc to 20.0 Mc in 3 minutes, automatic operation.
Occasionally, 1.4 Mc to 17.0 Mc in 6 minutes, automatic operation.

т	2	h	1	32

August 1959

(M3000)F2

(2,80) (2,84) (2,95 3,10 2,89

2.97 2.80 2.65 2.54 2.35 2.22 2.13

2.10 <2.09 (2.21) (2.25) (2.18)

August 1959

(M3000)F2

2.98 2.90 2.85 2.89 3.02 3.17 3.10 2.88 2.74 2.49 2.44 2.44 2.44 2.52 2.61 2.62 2.61 2.82 2.93

(3,00)

fEs

3,0

3.0 3.0 3.4 4.0 5.0 5.0 5.0

3.0 3.0 2.8 2.2 2.0 2.0 2.8 3.0 3.0

(1,9) (1,7) (1,7) (1,8) (1,7) (2,1) (2,1)

(3.1) (4.0)

(4.6) 4.8 4.6 4.2

4.5

(3,5) (3,1) (2,6) (2,6) (2,2) (2,0) (1,9)

5.7 31 5.0 31 4.9 31 4.6 31 4.9 31 5.6 31 6.6 31 7.0 31	h*F foF 1 300 310 305 310 300 265 3.8 250 4.4 240	E E E 1.	<1.2 <1.1 1.3 50 20 2.2	2.50 2.50 2.45 2.45 2.65 2.80	00 01 02 03 04	235 235 230 230 260	(9.6) (10.1) 8.7 6.6	5 7 11 11	h*F1	foF1	h*E	foE
5.0 31 4.9 31 4.6 31 4.9 31 5.6 31 7.0 31 7.6 31	310 305 310 300 265 3.8 250 4.4	E E 1. 2.	<1.2 <1.1 1.3 50 20 2.2	2.50 2.45 2.45 2.65	01 02 03 04	235 230 230	(10.1) 8.7 6.6	7 11 11				
8.0 31 8.1 31 8.2 31 8.2 31 7.9 31 7.7 31 7.8 21 7.8 31 7.5 31 7.6 31 7.6 31 7.6 31 7.6 31 7.6 31 7.6 31	250 4.5 265 260 270 265	3, 3, 3, 3, 3, 3, 3, 2, 2, 1, E	10 3.2 80 3.0 30 3.2 80 3.0 3.0 (2.7)	2.75 2.75 2.65 2.65 2.65 2.65 2.70 2.65 2.70 2.75 2.80 2.80 2.80 2.80 2.75 2.65	05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22	250 280 290 (330) 390 430 470 (525) (535) (520) (290) 340 345 260 240	6.5 10,2 12,6 13,8 14,0 13,5 13,4 13,2 13,1 13,0 (13,0) (13,4) (12,0) > 15,0	15 18 19 24 24 23 17 14 15 15 9 9 1 0	245 240 230 230 235 250 250 240 240 240 240 240		120 110 110 110 110 110 110 110 110 110	2.8 3.4 3.7 4.0 4.1 4.0 4.0 3.6 3.6
6.2 31	280	E	1.6	2.60 2.55	23	240	>12.0 (12.9)	2				
7. 7. 7. 7. 7. 7. 7.	8 31 4 31 5 31 6 31 6 31 4 31 6 29	.8 31 240 5.0 .4 31 250 4.5 .5 31 265 .6 31 260 .6 31 270 .4 31 265 .6 29 280 .2 31 280	.8 31 240 5.0 3. .4 31 250 4.5 2. .5 31 265 2. .6 31 260 1. .6 31 270 E .4 31 265 E .6 29 280 E .2 31 280 E	.8 31 240 5.0 3.10 3.2 .4 31 250 4.5 2.80 3.0 .5 31 265 2.30 3.2 .6 31 260 1.60 3.0 .6 31 270 E 3.0 .4 31 265 E (2.7) .6 29 280 E 1.6 .2 31 280 E 1.8	.8 31 240 5.0 3.10 3.2 2.75 .4 31 250 4.5 2.80 3.0 2.80 .5 31 265 2.30 3.2 2.80 .6 31 260 1.80 3.0 2.80 .6 31 270 E 3.0 2.75 .4 31 265 E (2,7) 2.65 .6 29 280 E 1.6 2.60 .2 31 280 E 1.8 2.55	.86 31 240 5.0 3.10 3.2 2.75 16 .4 31 250 4.5 2.80 3.0 2.80 17 .5 31 265 2.30 3.2 2.80 18 .6 31 260 1.80 3.0 2.80 19 .6 31 260	8.6 31 240 5.0 3.10 3.2 2.75 16 (290) 4.4 31 250 4.5 2.80 3.0 2.80 17 340 5.5 31 265 2.30 3.2 2.80 18 345 6. 31 260 1.80 3.0 2.80 19 260 6. 31 270 E 3.0 2.75 20 2.40 4.4 31 265 E (2.7) 2.65 21 240 6. 29 280 E 1.6 2.60 22 240 7 1 1 2 2 2 2 2 2 2 2 2 2 3 2 2 3 2 2 3 2 2 2 2 2 2 2 3 2 2 3 2 2 3 2 2 3 2 2 3 2 2 3 2 3 2 3 2 3 2 3 2 3 3 2 3	1.86 31 240 5.0 3.10 3.2 2.75 16 (290) (13.5) 1.4 31 250 4.5 2.80 3.0 2.80 17 340 (13.4) 1.5 31 265 2.30 3.2 2.80 18 345 (12.0) 1.6 31 260 1.80 3.0 2.80 19 260 1.80 3.0 2.80 19 260 1.80 3.0 2.80 19 260 1.80 3.0 2.75 20 240 >15.0 2.80 19 2	8.6 31 240 5,0 3,10 3,2 2,75 16 (290) (13,5) 9 4.4 31 250 4,5 2,80 3,0 2,80 17 340 (13,4) 9 5.5 31 265 2,30 3,2 2,80 18 345 (12,0) 1 6.6 31 260	8.6 31 240 5,0 3,10 3,2 2,75 16 (290) (13,5) 9 280 (4,4 31 250 4,5 2,80 3,0 2,80 17 340 (13,4) 9 (13,5) 5,31 265 2,30 3,2 2,80 18 345 (12,0) 1 (13,4) 9 (14,5) 1,6 31 260 0 E 3,0 2,80 19 260 0 E 3,0 2,75 20 240 >15,0 1 (14,5) 1,6 31 265 E (2,7) 2,65 21 240 0 (14,5) 1,6 31 260 E 1,6 2,60 22 240 >15,0 1 (14,5) 1,6 2,60 22 240 >15,0 1 (14,5) 1,6 2,60 22 240 >15,0 1 (14,5) 1,6 2,6 2,6 2,6 2,6 2,6 2,6 2,6 2,6 2,6 2	.8 31 240 5.0 3.10 3.2 2.75 16 (290) (13.5) 9 280 4.4 31 250 4.5 2.80 3.0 2.80 17 340 (13.4) 9 5.5 31 265 2.30 3.2 2.80 18 345 (12.0) 1 6.6 31 260 1.80 3.0 2.80 19 260 0 6.6 31 270 E 3.0 2.75 20 240 >15.0 1 6.6 31 265 E (2.7) 2.65 21 240 0 6.6 29 280 E 1.6 2.60 22 240 >12.0 2 2.3 31 280 E 1.8 2.55 23 240 (12.9) 2	113

Table 33

Table 34

f oF 1

h *E

113 111

111

117

(5,4) (5,4) (5,0)

foE

E 121

2.70 3.30 3.80 4.00 4.15 4.25 4.20 4.05 3.85 3.45 2.90 1.65

Singar	ore, Bri	tish Mala	ya (1.	.3º N.	103.8° E)				August 1959	Lwiro	Belgia	Congo (2.3° S	28.80	E)
Time	h*F2	foF2-0	Count	h*F	f oF l	h °E	foE	foEs	(M3000)F2	Time	h*F2	foF2—	Count	h°F	f
00 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23	350 (510)	11.0 10.5 9.3 7.6 5.9 4.7 5.9 10.4 12.8 13.8 14.3 13.9 12.7 12.6 12.3 12.8 13.1 13.0 13.3 12.8 13.1 13.0	26 26 29 25 27 25 26 30 28 26 29 29 29 29 29 28 30 27 22 25 25 25 25 25 25 25 25 25 25 25 25	230 230 230 230 240 290 255 245 230 210 210 210 210 220 240 255 245 230 210 210 210 210 210 220 240 250 210 210 210 210 210 210 210 210 210 21	6.1	120 120 110 105 105 105 105 105 1105 110	1,35 2,70 3,45 3,85 4,10 4,25 4,30 4,15 3,55 2,80	>3.1 3.1 3.0 <1.6 <2.0 <1.6 1.7 3.1 4.1	2, 95 3, 00 3, 00 3, 00 3, 05 3, 20 2, 85 2, 90 2, 75 2, 20 2, 35 2, 20 2, 10 2, 20 2, 10 2, 20 2, 20	00 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23	260 260 285 300 325 380 425 435 430 420	>13.1 11.6 10.0 8.7 8.5 7.0 10.6 12.7 13.2 13.6 13.2 13.6 13.7 14.0 14.0 >14.0 >13.4 (14.0) >13.6	28 28 19 18 25 28 28 30 30 30 30 30 30 31 31 31 31 31 31 31 31	220 210 220 235 240 235 260 255 240 235 220 210 215 220 235 220 215 220 235 240 215 220 215 220 235 240 215 220 215 215 220 215 210 215 210 215 210 215 210 210 215 210 210 210 210 210 210 210 210 210 210	(((
1										8					

Sweep: 0.67 Mc to 25.0 Mc in 5 minutes, automatic operation.

Time: 30.0°E.

Sweep: 1.25 Mc to 20.0 Mc in 3 minutes.

Table 35

Time	h*F2	foF2—C	ount	h*F1	f oF l	h*E	f oE	fEs	(M3000)F2
00	215	>8.7	15					1.9	2.78
01	235	8.0	17					2.6	2,63
02	245	6.8	21					2.2	2.65
03	240	5.6	22					2.4	2.81
04	240	5.0	26					2.5	2.82
05	270	6.4	29					2.7	2.76
06	250	10.0	26	250		120	2.7	3.4	2.85
07	270	12.3	24	240		115	3.4	3.5	2.78
08	280	12.6	31	235		110	3.8	4.3	2.70
09	(300)	12.6	29	235		110	4.0	4.0	2.54
10	315	12.8	26	230		110		340	2.50
11	(380)	13.1	25	235		110			2.29
12	400	13.5	27	250		110			2.25
13	400	13.9	27	250	6.0	110	4.0		2,22
14	400	14.1	25	245	6.0	110	3.6		2.21
15	>400	14.0	26	250		115	3.4	3.5	2.22
16		14.0	22	260		120	2.6	3,5	2.30
17	285	>14.0	21				-,-	3.0	2.41
18	285	14.6	15					3.0	2.52
19	275		2					2.8	-, 52
20	230		4					1.9	
21	220	(13.5)	7					1.7	(2.71
22	225	14.1	13					1.9	2.70
23	220	13.0	15					** /	2.72

Time: 0.0°. Sweep: 1.0 Mc to 20.0 Mc in 7 seconds.

Table 36

Elisa	bethville	, Belgia	n Cong	(11.60	S, 27.5	° E)			August 1959
Time	h*F2	f oF 2—0	Count	h*F1	f oF 1	h [#] E	foE	fEs	(M3000)F2
00	250	4.3	23					1.6	2,62
01	270	3,2	22					1.8	2,56
02	280	3.2	25					1.4	2.63
03	270	3,1	27					1.6	2.79
04	270	4.0	28						2.70
05	250	8.5	29	250		130	2.4	2.9	3,00
06	255	10.6	29	245		120	3.1		2,94
07	270	11.6	28	240		110	3.6		2.86
08	270	11.7	28	235		110	3.9		2.72
09	300	11.6	29	250		110	4.0	4.0	2,60
10	330	11.6	29	250		110	4.0	4.3	2.54
11	350	11.2	28	255		110	4.0	4.8	2.40
12	365	11.2	29	250	5.8	110	4.0	4.7	2.35
13	370	11.1	27	250		110	3.7	3.8	2.34
14	345	11.5	30	250		115	3.4	4.0	2.36
15	(300)	11.7	29	265		120	2.7	3.8	2.48
16	265	11.8	28					3.6	<2.59
17	260	11.4	19					3.2	<2.70
18	250	11.0	16					3.0	2.72
19	235	>9.4	9					2.9	<2.87
20	235	9.4	13					2.5	(2.72)
21	235	8.5	13					1.6	2.79
22	235	6.2	16					1.5	2.68
23	240	5.0	19					1.6	2.64

Time: 0.0°. Sweep: 1.0 Mc to 20.0 Mc in 7 seconds.

July 1959 (M3000)F2

Table 37

(/ / /0 !!)0/ (0 5)

T1		ovidenie Bay, U.S.S.R. (64.4° N. 106.6° E) July 195							Simteropol, U.S.S.R. (44.8° N, 34.1° E)								
Time	h*F2	foF2-	Count	h F	f'oF1	h°E foE	foEs	(M3000)F2	Tlme	h*F2	foF2-(Count	h °F	fol l	h*E	foE	foEs
00 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23	(410) (440) (440) 450 440 450 500 500 520 550 550 550 550 510 410 (460) (440)	5, 2 (5, 3) 5, 2 5, 6 6, 0 6, 0 6, 2 6, 0 5, 9 6, 0 6, 0 6, 0 6, 0 6, 0 6, 0 6, 0 6, 0	18 17 20 23 26 27 26 24 24 23 24 25 23 23 23 24 25 23 23 24 25 23 23 24 25 23 24 25 23 24 25 27 26 27 27 26 27 27 27 28 27 28 27 28 28 28 28 28 28 28 28 28 28 28 28 28	340 350 340 310 280 250 250 230 230 230 230 230 230 240 240 250 260 260 280 290 300 300 320	(2.7) 2.9 3.5 3.8 4.0 4.3 4.6 5.1 5.1 5.0 5.0 4.8 4.6 4.5	(1,50) (1,60) (1,60) (1,60) (1,00) 2,00 2,50 2,70 3,00 3,20 3,40 3,40 3,50 3,60 3,50 3,40 3,20 3,00 2,50 2,50 2,20 2,00 (1,00) 1,40	2.6 2.5 3.0 (3.2) (3.7) (4.7) 3.4 3.9 4.0 3.9 4.0 3.9 4.0 3.9	2,50 (2,50) 2,50 2,45 2,45 2,45 2,45 2,40 2,40 2,40 2,40 2,50 2,50 2,50 2,50 2,50 2,60 2,65 2,70 2,75 2,65 2,65 2,65 2,65 2,65 2,665 2,665	00 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23	(365) (325) 350 360 360 375 360 370 350 (325)	(7,5) 7,1 7,0 6,4 6,3 6,9 7,8 8,3 8,2 8,7 9,0 9,2 8,9 8,6 8,3 8,2 8,1 8,1 8,1 8,4 8,6 (8,3) 7,5	17 22 21 22 23 22 22 25 26 25 25 25 24 27 26 25 24 27 26 25 21 21 22 25 25 26 27 27 27 27 27 27 27 27 27 27 27 27 27	300 290 275 275 285 240 225 220 220 200 205 210 215 220 220 240 240 240 25 270 270 270	4.6 5.4 5.4 5.7 5.8 5.9 5.7 5.3 5.0		<1,50 2,30 2,90 3,25 3,60 3,95 4,00 4,00 4,00 3,95 3,10 3,55 1,50 <1,50	2.9 2.4 2.5 2.4 2.7 3.3 4.7 4.8 5.0 5.1 4.7 4.4 3.8 4.6 3.2 3.3 3.4 2.9

Time: 180.0°E.

Sweep: 1.0 Mc to 10.0 Mc in 5 minutes, station automatic with manual recording.

Table 39

Time	h°F2	foF2—Count	f oF 1	h *E	f oE	foEs	July 1959 (M3000)F2
00		8.3 30				2.6	2.70
01		0.0 31				3,2	2,80
02		7.6 30				3.0	2.80
03		7.4 30				3.0	2.70
04		7.0 31				2.6	2,75
05		6.5 30				2.6	2.70
06		6.4 29				3.4	2.80
07		7.6 30			2,40	4.4	3,10
08		8.7 29			3,10	4.2	2.95
09		9.2 28			3,50	4.4	2.70
10		9.8 27			3.75	4.8	2,50
11		10.4 27			3.85	4.8	2,50
12		10.8 30			4.00	4.6	2.50
13		11.4 30			4.00	4.6	2,60
14		11.9 30			4,00	4.6	2.60
15		11.7 30			3,95	4.4	2,60
16		11.5 28			3,70	4.5	2,60
17		11.2 21			3,30	3.7	2.70
18		10,6 30			2.70	3.4	2.75
19		10.0 30				3.2	2,79
20		9.8 29				3.0	2.70
21		9.4 28				3.0	2.70
22		9.0 30				2.6	2.70
23		8.4 30				2.6	2.70

Time: 90.0°W.

Sweep: 1.0 Mc to 25.0 Mc in 18 seconds.

Table 41

Elisa	bethville	, B el gian	Congo	(11,6	S, 27.5	° E)			July 1959
T1me	h*F2	foF2-C	ount	h *F 1	f oF 1	h*E	foE	fEs	(M3000)F2
00	250	4.0	20					2.1	2,66
01	275	3.0	20					2.0	2.62
02	275	2.9	25					2.4	2.66
03	275	2.8	24					2.6	2.78
04	265	3.4	26					2.0	2,57
05	250	8,1	29	255		135	2.1	3.0	3.01
06	250	10.8	30	250		115	3.0	3.5	2,98
07	260	12.0	30	240		110	3,5	3.9	2,94
08	270	11.1	31	240		110	3.7	4.0	2.74
09	295	11.8	30	240		110	4.0	4.1	2,68
10	310	11.6	31	250		110	4.0	4.5	2,58
11	325	11.4	30	250	5.8	110	4.0	4.4	2,54
12	330	11.5	31	255		110	3.8	4.4	2,50
13	335	11.1	31	250		110	3.6	4.0	2.47
14	325	11.0	31	250		110	3,2	3.8	2,50
15	300	11.4	31	255		120	2.6	3.7	2,54
16	260	11.8	29					3.6	2.68
17	235	11.4	27					3.4	2,91
18	235	9.8	15					3.0	2,91
19	230	8.8	14					3.0	2.86
20	240	8.4	11					2.6	2.93
21	240	6.0	13					2.7	2.80
22	240	5.6	18					2.6	2.82
23	240	4.4	20					2.5	2.64

Time: 0.0° . Sweep: 1.0 Mc to 20.0 Mc in 7 seconds.

Time: 30.0°E. Sweep: 0.5 Mc to 25.0 Mc in 12 seconds.

Table 40

Table 38

				1 00	10 10				
	ldville.						4.5		July 1959
Time	h°F2	foF2—	Count	h*F1	foFl	h°E	foE	fEs	(M3000)F2
00	220	10.8	20					2.0	2,79
01	230	8.2	20					3.0	<2.79
02	235	6.5	22					2.3	2.74
03	250	5.4	23					2.6	2.65
04	260	4.5	25					2.8	2.68
05	280	6.4	28					2.4	2,70
06	250	10,2	24	250		125	2.6	3.5	2.84
07	280	12.4	25	245		115	3,2	4.0	2.85
08	285	12.9	28	240		110	3.6	4.4	2.74
09	290	13,2	29	230		110	3.9	4.8	2.65
10	310	13.0	28	240		110		1.4	2,50
11	350	12.7	27	(230)		110			2,40
12	370	13.2	23	250		110			2,33
13	400	1.1.9	28	250		110	4.0	4.1	2,28
14	390	13.8	24	255	(5.8)	110	3.6	4.1	2,25
15	(365)	>14.2	26	250		115	3.1	4,()	2,29
16		14.0	26	255		125	2.5	4.0	2,38
17	270	14.9	21					1.9	2.50
18	270	14.5	13					3.7	2,56
19	255		0					3,1	
20	220	(15.0)	4					2.7	
21	230	(15.0)	3					2.1	
22	235	15.0	15					2.2	2,77
23	225	13,3	22					2.7	2.87

Time: 0.0°. Sweep: 1.0 Mc to 20.0 Mc in 7 seconds.

Table 42

Falkla Time	nd Is. (51.7° 5.		h*F	f oF l	h *E	foE	foEs	July 1959 (M3000)F2
171110		1012	June		1011				(1000071 2
00		3.0	30	<350				2.6	2, 35
01		3.0	29	350				2.6	2.35
02		3.0	29	350					2,40
03		3.0	29	345					2,50
04		2.9	29	345					2.35
05		2.8	29	300					2.50
06		2.6	29	300					2,60
07		3.7	27	290		160	1.6		
08		6.5	29	235			1.9	2,2	3,40
09		8.4	29	220			2.3	2.8	3,40
10		9.6	28	230		115	2.6	3.1	3,40
11		10.2	28	235		115	2.9	3.4	3, 25
12		10.2	30	240		115	2.9	3.8	3, 30
13		9.4	31	225		110	2.9	3.2	3.35
14		8.3	31	230			2.7	3.6	3.35
15		8.4	31	235			2.3	2.9	3,40
16		7.1	31	225			2.0	3.2	3.40
17		5.7	29	225			2.0	2.3	(3.25)
18		4.9	31	235				2.5	
19		4.1	27	245					3, 15
20		3,2	30	250				2.6	(3,40)
21			30					2.5	(3,00)
22		3.0		>285				2.6	(2,70)
23		2.9	31	>340				2.3	2.50
		3.0	30	> 3 50				2.5	2.40

Time: 60.0°W. Sweep: 0.67 Mc to 25.0 Mc in 5 minutes, automatic operation.

(M3000)F2	foEs	f oE	h *E	f oF 1	h *F	ount	foF2—C	h'F2	ime
2,50	4.2				350	14	5.9		00
2.45	4.2				360	14	6.0		01
2.50	4.4				330	15	6.0		02
2.45	4.3	2.30	115		290	17	6.0		03
2.50	4.4	2.40	115		260	17	6.3		04
2,50	4.6	2.30	110		250	20	6.4		05
2.50	5.0	2.90	110	4.4	240	22	6.4		06-
2.45	5.2	3.10	110	4.6	240	21	6.5		07
2.45	6.0	3.30	110	4.8	230	26	6.8		08
2.50	5.9	3.40	105	5.0	230	30	7.0		09
2.45	6.2	3,50	105	5.2	230	29	7.0		10
2,45	6.2	3,60	105	5.2	225	28	7.2		11
2,50	6.9	3.70	110	5.4	230	28	7.3		12
2.45	6.4	3.80	110	5.4	225	27	7.0		13
2,50	6.0	3,60	105	5.2	2.25	27	6.0		14
2,50	5.3	3,50	110	5.2	220	27	6.7		15
2.55	6.0	3,40	110		230	27	6.8		16
2,60	5.2	3,25	110		240	26	6.8		17
2.65	5.0	3,05	110		240	26	6.6		18
2,70	4.6	2,90	110		250	26	6.6		19
2.70	4.4	2.60	115		270	25	6.6		20
2.65	4.0	2.45	120		315	24	6.4		21
2,65	4.0				320	19	6.4		22
2,60	4.0				340	16	6.5		23

Time: $30.0^{\rm op}$. Sweep: 1.4 Mc to 22.0 Mc in 8 minutes, automatic operation.

Table 45

				1.8	D16 43				
Formo	sa, China	(25.0° N	, 12	1.5° E)					June 1959
Tlme	h'F2	foF2—C	ount	h*F	f oF 1	h'E	foE	foEs	(M3000)F2
00		>11.2	29	300				>3.2	2,70
01		10.0	26	260				3.0	2.75
02		9,2	28	260				1.9	2,80
03		8,2	20	250				2.0	2.75
04		7.5	28	260					2,65
05		7.6	28	280				2.4	2.70
06		8,6	27	250				3.0	2.95
07		8.9	26	240				4.6	3.00
08		8.7	25	(240)			(2.5)	6.2	2.90
09		9.0	26	<280			(3,3)	6.4	2.60
10		10.0	23	<260				7.0	2,40
11	420	10.9	20	<300	6.50			6.6	2.45
12	380	12.0	22	<290				6.2	2.50
13	410	>12.4	27	<300				6.7	2,55
14	(410)	13.1	24	<330	~			6.5	2.55
15	380	13.4	27	<300				6.2	2,65
16	(360)	14.0	25	<300				5.7	2.65
17		13.3	29	<260				5.4	2.05
18		13.5	28	<300				6.2	2,65
19		(13.0)	29	<310				5.2	2.60
20		11.5	30	<340				>4.4	2.45
21		>11.1	28	340				3.3	2.45
22		>11.4	20	330				2.8	2.50
23		>11.2	28	310				2.9	2.60

Tlme: 120.0°E. Sweep: 1.1 Mc to 19.5 Mc in 15 minutes, manual operation.

Table 47

f oE s	f oE	h *E	foF1	h*F	foF2—C	Belgian h*F2	Time
(1, 9) (1, 8) (1, 7) (1, 8) (1, 7) (1, 8) (2, 3) 3, 0 3, 7 4, 2 4, 5 4, 6 (4, 9) 4, 3 (4, 2) (3, 8) (2, 7) (2, 7)	foE 2.75 3.35 3.75 4.00 4.25 4.10 3.70 3.25 2.70	121 113 111 111 109 109 111 111 113 115					

Time: 30.0°E. Sweep: 1.25 Mc to 20.0 Mc in 3 minutes.

Table 44

Simfe	Simferopol, U.S.S.R. (44.8° N. 34.1° E) June 1959												
Tlme	h°F2	foF2—C	ount	h °F	f oF 1	h°E	foE	foEs	(M3000)F2				
71me 00 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18	(315) (330) (380) (380) (350) (370) (365) (375) (400) (390) (395) (375)	(8.0) (7.6) (7.6) 7.4 (7.1) 7.2 8.0 8.2 8.6 9.8 9.8 9.8 9.6 8.5 0.3 8.1 0.3 8.1	16 18 19 19 18 19 16 20 22 24 24 23 24 24 23 22 22 21 21	h*F 295 290 255 275 280 250 235 225 220 215 200 205 205 225 220 225 220 225 227 27 27 27 27 27 27 27 27 27 27 27 27	foF1 4.6 5.1 5.5 5.4 5.7 6.0 5.8 5.9 5.6 5.6 5.0		1.50 2.40 3.00 3.30 3.370 3.85 4.00 4.05 4.00 3.95 3.75 3.50 3.15 2.65 1.70	foEs 3.6 3.5 3.1 3.0 2.4 3.2 4.0 4.4 5.1 5.0 5.0 4.7 4.5 4.3 4.5 4.3 4.5 4.3 4.6 4.2 3.6 3.4	(M3000)F2 (2,60) (2,60) (2,65) (2,65) (2,70) (2,66) (2,65) (2,75) (2,70) (2,60) (2,60) (2,60) (2,60) (2,60) (2,60) (2,70)				
20 21 22 23		8.1 (8.4) (8.4) 8.3	15 16 14 11	265 275 300 290		<	1,30	3.9 3.9 3.8 5.0	2.75 2.60 (2.60) 2.60				

Tlme: 30.0°E. Sweep: 0.5 Mc to 25.0 Mc in 12 seconds.

Table 46

Time	h'F2	foF2—C		h'F	foF1	h'E foE	foEs	May 1959 (M3000)F2
00		(7.8)	11	285			2.7	(2,60)
01		(7,7)	13	300			2.6	(2,55)
02		(7.5)	11	300			2.6	(2,50)
03		7.0	13	285			2.4	(2,60)
04		(7.2)	8	285		<1.10	2.6	(2,65)
05	(425)	0.4	16	255		2,30	2.8	2.80
06	(395)	(9.1)	15	235		2.90	3,4	(2.80)
07	<375	9.9	19	225		3.25	4.0	2.80
- 08	(365)	9.8	21	225	5.4	3.60	4.4	2.80
09	(375)	9,9	21	220	6.1	3.80	4.6	2.65
10	365	10,6	21	210	5.8	3.95	4.4	2.65
11	<350	10.7	21	205	6.1	4,00	4.6	2.65
12	360	10.6	22	210	6.2	4.00	4.4	2.65
13	355	10.4	22	215	6.0	4.00	4.2	2.65
14	355	10.4	20	225	6.0	3, 95	4.3	2,65
15	(340)	10.1	22	225	5.6	3.75	4.0	2.70
16	(330)	9.6	23	230		3,50	4.2	2.75
17	(280)	(9,6)	21	250		3.05	4.3	2,80
18		(9.6)	17	250		2,40	4.3	(2,85)
19		(9,2)	9	255		<1.40	3.3	(2,85)
20		(8,9)	13	250			3.4	(2,75)
21		(8.8)	14	260			3.0	2,65
22		(8.6)	12	275			3.1	2.55
23		8.1	13	295			3.0	(2,60)

Tlme: 30.0°E. Sweep: 0.5 Mc to 25.0 Mc in 12 seconds.

Table 48

Byrd Station (80,0° S, 120,0° W) February											
Time	h°F2	foF2—Co		h "F	foF l	h *E	foE	foEs	(M3000)F2		
00	(480)	5,95	14	335		111			(2,40)		
01	480	(5.3)	21	345		114			(2.40)		
02	<535	5.05	18	(315)				>2.5	2.40		
03	(545)	5.2	13	(280)				>2.2	2.45		
04		5.9	11	305					2.50		
05		(5.8)	9	(255)					(2,62)		
06		5.6	13	265					2.80		
07		5.6	13	(280)					2.80		
08	(630)	5.45	22	<280	4.5				2.60		
09	(540)	5.95	22	<265	4.6	111			2.60		
10	(465)	6.7	26	245	4.6	106			2,58		
11	(460)	7.0	23	250	4.6	105			2.60		
12	480	7.0	24	(245)	4.3	107			2.50		
13	480	6.9	24	260	4.3	109			2,58		
14	455	6.75	22	260	4.5	110			2.60		
15	470	6.6	27	260	4.2	110	2.95		2.52		
16		6.8	23	275		107	2.70		2.65		
17	460	6.7	23	(275)	4.4	110	2.78		2.55		
18	440	6.6	23	285		111	2.78		2.50		
19	(425)	7.0	17	295		113	2.82		2.45		
20		>6.45	16	300		119	(2.58)	>2.8			
21	(420)	>6.1	20	<315		125	2.35	4.4	(2.40)		
22	(540)	(5.6)	21	320		(125)		>2.5	(2,42)		
23	<440	(6.55)	18	335		(118)	(2.65)		(2.52)		

Tlme: 120.0°W. Sweep: 1.0 Mc to 25.0 Mc in 13.5 seconds.

Table 49

١.	Victor	ria, Cana	da (48,4°		December 1958					
	Time	h°F2	foF2-	Count	h*F	f oF l	h 'E	foE	fEs	(M3000)F2
,	00		3.7	29	300					
1	01	l	3.7	30	300					
	02	l	3.6	30	300					
	03	1	3.6	30	320					
	04		3.5	29	300					
	05		3.5	29	300					
	06	ľ	3.5	29	290					
	07	Ì	3.7	27	280			Е		
	08		6.2	20	240					
	09		9.5	28	230		120	2.5		
	10		12.2	26	230		120	2.9		
	11		13.2	26	220		120	3.0		
	12		13.6	26	220		115	3.1		
	13		13.5	23	220		110	3.1		
	14		13.5	23	220		110	2.9		
	15		13.0	19	220			2.6		
	16		11.9	20	220		~ = -	2.2		
	17		11.0	20	220			E		
	18		9.6	24	220					
	19		7.7	30	220					
	20		6.1	30	230					
	21		4.7	30	250					
	22		4.2	30	270					
	23		3.6	30	280					

Tlme: 120.0°W. Sweep: 1.6 Mc to 20.0 Mc in 15 seconds.

Table 51

8uenos	Aires,	Argentin	a (34.5	5° S, 58	.5° W)			De	cember 1958
Time	h'F2	foF2-	Count	h F	foF1	h ¹E	foE	foEs	(M3000)F2
00		10,2	22	355				3.4	2.40
01		10.0	23	330				3.4	2.50
02		9.2	25	320				2.8	2.45
03		8.0	25	325				2.4	2.35
04		8.6	24	355					2,30
05		9.1	21	275		135	2,25	2.6	2,15
06		9.6	23	255		119	3.10	3.7	2,30
07		10.1	25	245		115		3.8	2.30
68		10.9	23	240	6.4	115			2.30
09	(470)	11.3	24	230		113			2.30
10	450	>11.8	24	245	6.5			4.9	2.40
11	455	12.0	25		6.6				2.45
12	430	12.1	25		6.7				2,40
13	430	12.0	26		6.4				2,40
14	440	12.0	26	245	6.4				2,49
15	410	11.5	25	245					2,50
16	410	>10.9	24	245	5.8				2.50
17	400	10.7	24	255				4.4	2.50
18		10.3	23	280				3.6	2,45
19		10.2	25	320				2.8	2,35
20		10.4	24	385				3.0	2,30
21		10.4	23	410					2,25
22		10.3	21	390				2.4	2,35
23		10.0	23	370				2.6	2.40

Time: 60.0°W. Sweep: 1.0 Mc to 25.0 Mc in 13.5 seconds.

Table 53

Pole	Station (90.0°S)						De	cember 1950_
Time	h'F2	foF2-C	ount	h*F	f oF l	h *E	foE	foEs	(M3000)F2
00	570	(5,9)	23	250	4.7	99	3,00		(2.30)
01	(500)	(6.1)	24	<260	(4.6)	99	3.00		(2,35)
02	520	6,15	26	240	4.6	97	(3.00)		(2.35)
03	535	6.0	26	255	4.6	99	3.00		2.30
04	(530)	(5.9)	25	240	4.5	99	3.00		(2,25)
05	505	(6.0)	23	250	4.5	97	3.00		(2,20)
06	540	(6.6)	25	240	4.4	99	3.00		(2.30)
07	530	(6.2)	25	240	4.3	99	3.00		(2,28)
08	570	(5.8)	22	240	4.4	100	3.00		(2,22)
09	565	5.6	22	240	4.4	101	(3.00)		2,25
10	750	<5.1	19	240	4.3	99	3.00		2.10
11	590	5.3	16	250	4.5	97	(3,00)		(2,20)
12	675	5.3	19	255	4.5	100	3,00		2,10
13	660	5.5	21	260	4.6	97	3,00		2,20
14	(590)	5.6	24	260	4.7	99	3.00		2.32
15	540	6.2	25	255	4.7	99	3.00		2,30
16	490	6.35	24	255	4.6	101	3.00		2.40
17	510	6.05	24	260	4.5	97	3.00		2.35
18	485	6.0	20	250	(4.5)	97	3,00		2,40
19	555	5.7	20	245	4.6	101	3.00		2.38
20	490	6.0	20	250	4.7	100	3.00		2.40
21	520	6.0	19	250	(4.6)	101	(3,00)		2.45
22	500	6.0	24	245	(4.6)	101	(3,00)	4.0	2.45
23	530	(6.15)	24	240	(4.6)	99	3.00		(2.40)

Time: 0.0°. Sweep: 1.0 Mc to 25.0 Mc in 13.5 seconds.

Table 50

	, Niger		4		6.63	1.10	7 F	6 F -	(100000100
Tlme	h'F2	foF2-C	ount	h*F	f oF l	h¹E	foE	foEs	(M3000)F2
00		9.5	30	270					(2.45)
01		10.0	30	270					(2,65
02		9.4	30	260					2.75
03		9.1	30	240					(2.35)
04		8.6	30	220					3,10
05		>6.8	28	215					<3,20
06		7.5	30	260		140	1.90		2.90
07		>10.1	30	245		110	2.90	6.6	<2.95
08		11.8	30	235		105	3,50	8.2	2.60
09		12.1	31	220		105	3.00	9.0	2.30
10		12.1	31	215		105	4.00	11.0	2,20
11		12.0	30	210		105	(4,20)	10.0	2.15
12		12.3	31	215		105	(4,25)	11.0	2,10
13		12.3	30	215		105	(4.20)	7.0	2.10
14		12.2	30	220		105	(4.00)	7.7	2.05
15		12.7	31	240		105	3.65	7.0	2.05
16		(12,2)	31	245		110	3.15	6.8	2.10
17		>11.4	31	280		120	2.30	3.6	(2.05.
18		(10.5)	31	355			(1.20)		(1.95)
19		8.9	31	430					1.90
20		0.5	30	415					(2.00)
21		8.5	31	390					(2.25)
22		8.5	30	320					(2,30)
23		9.0	30	300					(2,40)

Time: $_{0.0}$ °. Sweep: $_{0.67}$ Mc to 25.0 Mc in 5 minutes, automatic operation.

Table 52

ort L	Port Lockroy (64.8° 5, 63.5° W)										
Time	h'F2	foF2→(Count	h*F	f oF l	h 'E	foE	foEs	(M3000)F2		
00		10,6	30	335				1.8	2,39		
01		11.1	30	330				1.8	2.35		
02		11.2	30	325			1.8	2.0	2,30		
03		11.0	30	310			2.1	2.3	2.30		
04		11.2	30	290			2.4	2.8	2.30		
05		10.9	30	265			(2.8)	3,2	2,30		
06		10.7	29	(260)			(3.1)	3.8	2.35		
07		10.0	30	250			(3,3)	4.0	2,30		
08		9.3	29	<250			(3,6)	4.4	2.35		
09		8.7	29	<250			(3,8)	5.0	2.40		
10		8,4	29	240			(3,8)	5.2	2,40		
11		7.9	30	(235)			(3,8)	4.8	2.40		
12		8.0	27	245			(3,9)	5.0	2.49		
13		7.5	30	<240			(3.0)	4.4	2.4		
14		7.5	31	240			(3,8)	4.5	2.49		
15		7.3	31	<250			(3,8)	4.3	2,50		
16		7.5	28	(255)			(3.6)	4.8	2,50		
17		7.6	31	255			(3,4)	4.2	2.55		
18		7.6	31	255			(3,2)	4.1	2,59		
19		7.8	30	(270)			(2.8)	3.8	2,50		
20		8.0	31	270			(2.5)	3.0	2.50		
21		8.3	31	290			2,2	2,2	2.4		
22		9.3	29	320			1.6	2.0	2,30		
23		10.2	28	335				1.8	2.35		

Time: 60.0°W . Sweep: 0.67 Mc to 25.0 Mc in 5 minutes, automatic operation.

Table 54

	n. Nigeria (7.4° N. 3.9° E)						September 1958				
Time	h'F2	foF2—0	ount	h*F	f oF l	h *E	foE	foEs	(M3000)F2		
00		10.1	21	295					(2,50)		
01		10.0	21	285					(2.80)		
02		8.8	22	250							
03		0.4	21	240					(3,10)		
04		7.6	22	230					(3,30)		
05		6.2	21	215					3,30		
06		8.5	18	255		(140)	2,25		3,10		
07		12.0	20	240		110	3.15		3.05		
08		13.6	20	230		105	7.70	7.0	2.75		
09		14.5	21	215		105	(4,05)	7.0	2,40		
10		>14.0	22	210		105	(4,30)	7.0	2,15		
11		13.5	22	210		105	(4.40)	7.0	2.10		
12		13.1	27	205		105	(4.40)	7.0	2.10		
13		12.3	27	205		105	(4.30)	7.0	2.05		
14		12.4	26	205		105	(4.15)	7.0	2.05		
15		12.4	25	210		105	3,85	7.0	2.10		
16		11.0	24	240		105	3.40	7.0	(2,10)		
17		>11.6	13	265		115	2.80		(2,10)		
18		>11.2	12	340			1.60		(1.95)		
19		8.5	19	455					(1,90)		
20		3.4	20	460							
21		3.3	19	390							
22		8.6	19	330							
23		0.0	19	300					(2.45)		

Time: 0.0° . Sweep: 0.67 Mc to 25.0 Mc in 5 minutes, automatic operation.

Table 55

		4	4 4	4.61	1.00		4 50 -	1.150	
(M3000)F2	foEs	foE	h *E	f oF l	h*F	ount	foF2—C	h°F2	Time
(2.55					300	15	(8,2)		00
2,60					290	16	8.3		01
2.70					275	14	8,2		02
2.90					240	13	8.3		03
2.90		~			205	13	7.2		04
2.50		E			230	14	6.2		05
(2,60)		1.55	155		260	13	(6.9)		06
		2.60	99		205	13	>8.4		07
		3,10	97		205	10	>9.0		08
		3,50	97		(205)	10	>9.0		09
			93		(205)	6	>9.0		10
			94		(210)	10	>9.2		11
			95		(200)	10	>9.2		12
			95		(220)	11	>9.4		13
			95		(220)	10	>9.4	~~-	14
	(2.6)		99		(220)	9	>9.0		15
		3,25	97		215	14	>9.1		16
	3.0	2.90	99		230	12	>9.0		17
	3.0	2.00			230	15	>9.0		18
					230	14	>8.0		19
					260	12	>0.0		20
					265	13	>8.0		21
					290	14	>8.0		22
(2,60)					300	15	(8,2)		23

23 (8.2) 14 290 (8.2) 15 300 Time: 60.09W. Sweep: 1.3 Mc to 18.0 Mc in 30 seconds.

Table 57

August 1958 foEs (M3000)F2
(3,15)
(3.15)
(3.05)
(3,10)
2,90
2,95
2,80
) 2.90
)
)
)
)

Time: 60.0°W. Sweep: 1.3 Mc to 18.0 Mc in 30 seconds.

Table 59

Svalbard, Norway (78.2° N, 15.7° E) May 1958											
fime	h°F2	foF2-C	ount	h °F	foF1	h*E	f oE	foEs	(M3000)F		
00		5.7	21	260		115	2,30	3.2	2,40		
01	450	5.4	20	275	3,60	115	2,35	3.2	2.30		
02	445	5.7	21	270	3,70	115	2,40	3.2	2.30		
03	475	(5,5)	21	250	3,80	110	2,60	3.2	2.30		
04	540	5.2	24	240	4.00	110	2,65	3.0	2.20		
05	560	5.5	25	250	4.25	110	2.80	3,2	2, 1		
06	515	5.0	22	255	4.30	110	3.00	3,2	2.25		
07	550	6.2	22	255	4.65	105	3,25	3.3	2,2		
08	500	6.5	25	250	4.00	105	3,25	3.2	2.3		
09	470	7.0	26	245	4.85	105	3,35	3.4	2.3		
10	480	7.3	27	240	5.00	105	3,35		2.3		
11	400	7.0	29	240	4.80	105	3,35		2, 3		
12	510	6.9	27	235	4.00	100	3.35		2.3		
13	505	6.8	26	235	4.05	105	3,30		2.3		
14	450	7.1	27	235	4.70	100	3,30		2.4		
15	500	7.0	20	240	4.60	105	3,25		2.4		
16	450	6.0	26	250	4.70	105	3,15	3.2	2.4		
17	470	7.0	27	250	4,60	110	3.00	3.4	2.4		
18		7.1	25	250		110	2,90	3.4	2.5		
19	(510)	6.0	22	260		110	2.75	3.0	2.4		
20	(505)	6.5	23	260		110	2,60	3.4	2.4		
21	(440)	6.8	22	270		115	2,55	3.7	2.5		
22	(415)	6.4	25	265		115	2,40	3.0	2.4		
23	(535)	6.5	21	260	3,60	115	2,30	2.6	2,5		

Time: 15.0°E. Sweep: 0.68 Mc to 24.6 Mc in 5 minutes, automatic operation.

				10	D16 20				
	est, nung				Ε)				August 1958
Time	h'F2	foF2-	Count	h*F	f oF l	h *E	f oE	fEs	(M3000)F2
00 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18	(350) (415) 405 410 420 420 420 400 370	6.8 6.5 6.2 5.8 >6.2 7.3 8.2 8.8 9.1 9.3 9.5 9.5 9.1 8.9 6.6 6.4 (7.9) >6.6 (6.4) (6.4)	28 27 29 28 30 29 30 30 31 27 30 28 27 30 31 30 26 27 30 28 27 30 28 27 30 28 27 30 28 27 30 28 27 30 30 29 30 30 30 30 29 30 30 30 30 30 30 30 30 30 30 30 30 30	330 335 325 330 260 245 240 230 230 230 230 230 235 240 245 245 260 275 280 300 320 320 320 330 330	5.3 5.6 5.9 6.1 6.2 6.3 6.0 5.8 5.4	135 125 120 120 120 120 120 120 120 120 120 120	2.0 2.6 3.1 3.5 3.7 3.8 3.8 4.0 3.7 3.4 3.8	3.9 4.5 4.8 5.4 5.3 5.2 5.6 4.6 4.1 3.5 3.7 3.7 3.7 3.2 3.0	
0		(0,4)	20	000				3.0	

Time: 0.0°. Sweep: 1.0 Mc to 20.0 Mc in 35 seconds.

Table 58

Trele	w. Argent	tina (43,0	os.	65,0° W))				August 1958*
Time	h'F2	foF2—C	ount	h'F	foF1	h*E	foE	foEs	(M3000)F2
00		>5,9	12	330					
01		>6.0	12	325					(2,50)
02		>6.0	13	<315					(2.40)
03		6.0	13	320					2.50
04		(5.7)	13	305					(2,45)
05		5.3	13	255					(2.60)
06		(5,1)	15	280					(2,60)
07		>6.2	14	260					
08		>7.7	11	210					
09		>9.4	2						
10			0						
11			0						
12			0						
13			0						
14			0						
15			0						
16		>10.0	1						
17		>9.6	5	(210)					
18		>6.2	7	(225)					
19		>6.1	7	(210)					
20		>6.2	4						
21		>6.2	7	(235)					
22		(5,9)	8						
23		>6.0	11	290					

Time: 60.0°W. Sweep: 1.3 Mc to 18.0 Mc in 30 seconds. *Bulk of data obtained first half of month.

Table 60

Alert,	Canada	(82.5° N	62.7	(N c					April 1958
Time	h'F2	foF2-	Count	h*F	foFl	h *E	foE	fEs	(M3000)F2
00		5.6	26	350		140	2.0		
01		6.0	27	350		140	2.2		
02		6.0	27	350		140	2.2		
03		6.2	27	330	3.0	130	2.2		
04		6.5	27	320		130	2.4		
05	(540)	6.2	27	320	4.0	130	2.5		
06	(580)	6.2	27	310	4.3	130	2.6		
07	(560)	6.1	27	300	4.2	130	2.7		
08	(520)	6.2	27	310	4.5	130	2.0		
09	600	6.6	26	300	4.6	120	2.8		
10	540	6.6	26	300	4.6	120	2.9		
11	500	6.0	27	300	4.7	120	2.9		
12	540	7.0	28	300	4.7	120	2.9		
13	530	6.8	28	300	4.4	120	2.9		
14	540	6.3	28	300	4.3	130	2.9		
15	600	6.3	26	300	4.2	120	2.8		
16	560	6.2	26	310	4.1	120	2.8		
17	(500)	6.5	27	330	4.1	130	2.6		
18		6.0	27	340	4.0	130	2.5		
19		5.4	28	340	3.7	130	2.4		
20		5.8	28	340		120	2.2		
21		5.4	28	350		140	2.2		
22		5.0	20	360		140	2.0		
23		5.8	20	360		120	2.0		

Time: 75.0°W. Sweep: 1.6 Mc to 20.0 Mc in 15 seconds.

Table 61

Ushuai	a, Argen		March 1950						
Time	h*F2	foF2-0	Count	h*F	foF l	h *E	foE	foEs	(M3000)F2
00		7.6	26	340					2,40
01		7.6	28	325					2.40
02		7.0	26	315					2.35
03		6.5	27	330					2.30
04		6.0	28	360					2.30
05		6.0	28	340			E		2.30
06		6.1	28	330			E		2.40
07		7.5	27	250		148	2.15		(2.80)
08		>8.4	24	225		105		3.1	(2.70)
09		>8.7	22	225		101		3,1	
10		>9.2	20	225		101		3.8	
11		>9.1	18					4.1	
12		>9.3	15					4.4	
13		>9.3	18					4.0	
14		>9.4	17					3.7	
15		>8.7	28	230		101			
16		>9.0	21	230		101			
17		>8.9	20	245		101			(2,00)
10		>8.8	10	250		183	2.70		
19		>8.6	20	255		155	1.00		
20		>8.5	23	260				2.4	(2,65)
21		>8.0	23	270				2.6	(2,60)
22		7.0	24	380				1.8	2.40
23		7.5	22	330				1.6	2.40

Time: 60.0°W. Sweep: 1.3 Mc to 10.0 Mc in 30 seconds.

Table 63

Ahmed	tabad, In	dia (23.0°	N,	72.6 E)				Fe	bruary 1958
Time	h*F2	foF2—Co	unt	h*F	foF l	h*E	foE	foEs	(M3000)F2
00		12.2	17	250				1.7	2.75
01		10.7	16	245					2.85
82		0.4	19	240					3.05
03		7.4	15	225					3.00
04		6.4	12	250					2,60
05		(4.6)	8	270					(2,55)
06		4.4	11	270					(2,65)
07	ļ	0.2	15	260		150	1.00	2.3	2.95
08	250	11.8	12	250		115	2.80		3,05
09	250	13.9	13	(240)		110	3,35		2.00
10	300	15.5	15	(230)	5.6	110	3.75		2.75
11	350	16.0	13	(240)	5.6	110	4.00		2,60
12	350	16.3	18	(235)		110	4.10		2,50
13	360	15.6	20	(240)		110	4.10		2,50
14	370	(15.7)	20	240	5.3	110	4,00		2.40
15	350	16.1	20	230		110	3.80		2.45
16	335	>15.3	17	(250)		110	3.60		2,55
17	250	>15.1	18	250	6.0	110	2,90	>3.2	2,55
18		15.2	19	260			1.75	2.5	2,55
19		15.3	19	280				2.5	2.55
20		>15.3	16	260				2.4	2.65
21		>15.3	17	235				1.8	<2.65
22		15.2	19	230				2.2	2.75
23		13.8	15	240					(2,65)

Time: 75.0°E. Sweep: 0.6 Mc to 25.0 Mc in 5 minutes, automatic operation.

Table 65

_Bomba	, India	(19.0° N.	73.0°	E)				Fe	bruary 1950
Time	4	foF2—C	ount	h F	foFl	h*E	foE	foEs	(M3000)F2
00		>11.0	17						
01		>10.5	23						
02		>9.8	24						
03	(320)	>8.7	23						
04	(320)	>0.0	23						(3, 10)
05	(300)	>6.7	24				~		(3,20)
06	300	>6.1	22			80	3.0		(3,30)
07	280	9.0	26						
08	320	>13.2	25						
09	330	>13.1	23						
10	(360)	(14.8)	25						
11	(380)	(14.6)	27						
12	(400)	>14.7	28						
13	(430)	>14.7	20						
14	(440)	>15.1	28			100	4.4		
15	(420)	>14.9	27			100	4.2		
16		>14.2	25			100	4.2		
17		(14.4)	23			100	3.9		
18		>14.2	21			100	3.0		
19		>13.8	27						
20		>14.0	5						
21		>12.8	14						
22		>12.5	16						
23		>12.0	17						
- 1									

Time: 75.0° C. Sweep: 1.5 Mc to 18.0 Mc in 5 minutes, manual operation. Pleight at 0.83 foF2.

Table 62

Delhi		28.6° N,	77.20	E)				Fe	bruary 1958
Time		foF2—	Count	h*F	foF1	h E	foE	foEs	(M3000)F2
00	340	>7.0	26						2.85
01	330	(6.7)	26						2,80
82	(340)	>6.0	11						(2.85
03	379	>5.0	25						<2.85
04	360	(4.7)	28						2,50
05	380	4.8	27						2.70
06	340	5.5	28						2.80
07	280	>9.1	26						3,10
-08	300	12.1	25			100	3.0	3.8	3.15
09	300	>14.0	26			100	3.4	4.0	3,00
10	340	15.0	23			100	3.6	4.5	<2.90
11	350	>15.1	25			110	3.0	4.2	(2.80
12	360	16.0	27			100	3.9		2.80
13	(360)	15.5	24			110	3.9		
14	360	15.3	25			120	3.7	4.4	(2,00
15	360	15.0	25					4.2	2.80
16	360	14.7	27					4.4	2,80
17	340	14.2	26					3.7	2.85
18	330	14.0	27					3.1	2.90
19	350	>13.3	27						2.75
20	(340)	>12.4	25						(2.80
21	360	>10.0	27						(2.70
22	360	9.1	28						2.80
23	340	8.2	28						(2.90

Time: 75.0° E. Sweep: 1.5 Mc to 18.0 Mc in 5 minutes, manual operation. *Height at 0.83 foF2.

Table 64

		(23,0°		h*F	6-51	h *E	C-E	foEs	bruary 1958
Γime	h°F2	foF2-(ount	n ' r	f oF l	n.F	foE	IOLS	(M3000)F2
00		>11.0	17	240					
01		>10.0	17	235					(4.0
82		>7.2	18	245					
03		(6.8)	18	240					(4,0
04		>4.4	10	235					(3.8)
05		(4.3)	18	250					(3.6)
06		>4.4	18	255					(3,4
07		(9.2)	18	255		100	(2.4)		3.65
08		(12.0)	17	250		100	>3.0		<4.25
09		D	14	250		100	(3.6)		
10		D	11	(250)		105	<3.7		
11		D	9	(255)			<6.0		
12		D	11	(250)			<6.0		
13	(400)	0	13	(250)	(8.0)		<5.0		
14	(400)	0	12	(250)	(8,0)		<5.0		
15	(360)	0	12	(245)	(7.0)	100	(3.7)		
16	(360)	0	14	(250)		105	(3,4)		
17		D	16	250		110	(2.9)		
18		D	10	265		<150	(1.9)		
19		D	17	<300					
20		0	17	270					
21		0	16	245					
22		D	17	245					
23		>12.0	17	245					

Time: 90.0°E. Sweep: 1.0 Mc to 13.0 Mc in 1 minute 55 seconds.

Table 66

	s, India								ebruary 1950
Time		foF2—	Count	h'F	foFl	h *E	foE	foEs	(M3000)F2
00		12.4	28						
01		11.5	23						
82		9.0	22						
03		7.8	18						
04		7.0	26						
05	(340)	6.9	24						
86	340	7.0	25						(2.80)
07	360	11.5	25					3.8	
08	420	13.3	23					4.2	2.55
09	440	13.5	25					4.5	2.30
10	460	13.4	26					4.9	2.35
11	480	13.1	25					4.4	2.30
12	500	13.8	25					4.6	2.25
13	510	13.9	15					3.6	(2,25)
14	510	14.0	25					4.7	(2,25)
15	520	14.2	25					4.5	(2,30)
16	(520)	14.0	24					5.0	(2,30)
17	(530)	13.6	24					4.8	
18	(540)	12.1	26					3.6	
19		11.5	21						
20		12.5	19						
21		12.5	24						
22		13.4	23						
23		13.4	26						
- 1									

Time: $75.0^{\circ}E$. Sweep: 1.5 Mc to 18.0 Mc in 5 minutes, manual operation. *Height at 0.83 foF2.

Table 67

Tiruc	hy, India		February 1958						
Time	4	foF2-	Count	h °F	f oF 1	h ¹ E	foE	foEs	(M3000)F2
00	(320)	(11.6)	14						
01		11.5	11						
02	(320)	>9.8	10						
03	320	>8.9	17						3.15
04	200	8.0	18						3,20
05	280	6.7	22						3,35
06	300	7.2	21						3.20
07	320	10.5	25					7.2	2.90
08	360	>11.7	27					10.0	2,60
09	400	12.1	17					11.4	(2.60)
10	440	12.3	28					>11.5	2.40
11	460	12.3	27					11.6	2.35
12	490	>12.4	25					11.4	2.30
13	520	>13.0	27					11.4	2,20
14	500	13.1	27					11.2	(2.30)
15	520	>13.4	27					(11.3)	
16	(520)	>12.0	20					>11.3	
17	(520)	>12.0	23					>10.2	
18	(560)	>11.5	27						
19	(560)	11.5	17						
20		(10.5)	4						
21	(360)	>11.4	13						
22	(400)	>11.7	13						
23		>11.7	13						

Time: $75.0^{\circ}E$. Sweep: 2.5 Mc to 20.0 Mc in 5 minutes, manual operation. *Height at 0.83 foF2.

Table 69

Triva	ndrum, In	dia (0.59	N, 7	7.0° E)				Fe	bruary 1958
Time		foF2-C	ount	h °F	foF1	h°E	foE	foEs	(M3000)F2
00	(330)	>11.4	14						
01	(360)	>11.1	15						
02	330	>10.2	16						(3,00)
03	320	9.0	18						3.10
04	320	8.2	18						3,10
05	280	6.9	17						3,20
06	320	6.8	18						3,10
07	350	9.6	25						2,80
-08	400	11.5	27					>9.0	2.60
09	440	12.2	28					13.0	2,40
10	440	12.0	27					13.0	2,40
11	460	12.4	26					13.2	2,35
12	480	12.6	25					13.0	2.30
13	500	12.8	27					13.0	2,25
14	520	13.5	27					12.6	2,25
15	520	13.0	28					>12.0	2.25
16	520	13.2	28					>10.7	2,20
17	540	>13.0	27					>7.5	(2,20)
18	560	(12,1)	27						(2.10)
19		>10.8	10						
20		>10.5	8						
21	(480)	>11.4	14						
22	(400)	>11.4	16						
23	350	>11.6	17						

Time: 75.0°E , Sweep: 1.5 Mc to 18.0 Mc in 5 minutes, manual operation. *Height at 0.83 foF2.

Table 71

Time	h°F2	foF2—C	ount	h °F	foF1	h *E	foE	foEs	(M3000)F2
00		10.4	30	305				<1.1	2,40
01		9.9	31	300				<1.1	2.40
02		9.0	31	300				<1.1	2.45
03		8.6	30	295				<1.1	2.45
04		8.2	30	265		140		<1.0	
05		7.0	30	250		140		<1.1	2.50
06		6.9	30	290		140	1.50	1.1	2.60
07		9.1	31	265		120	2.70		2,50
08		10.2	31	250		110	3.45		2.65
09		11.0	31	245		110	3, 90	4.0	2.50
10		11.6	31	235		110	4, 15	4.2	2.00
11	455	12.3	29	225		110	<4.40		1.80
12	590	12.2	31	210	6.8	105			1.80
13	600	(11.6)	29	215	6.7		4.45		1.75
14	575	11.6	29	215	6.5	110 110	<4.45		1.65
15	580	11.8	29	240	6.3		4.25		1.70
16	510	>12.0	30	250		110	4.00		1.80
17	640	12.2	31	270	6.1	110	3.65		1.90
18		12.0	30	310	~	115	3.10		1.90
19		11.8	30	400		140	2,20	3.1	1.90
20		>11.6	28	395				3.1	1.90
21		11.5	29	335				2.8	1.95
22		11.1	31	295				2.8	2,15
23		10.7	31	300				2.8	2,20
		10.1	01	500		100		<1.3	2,30

Time: $105.0^{\circ}E$. Sweep: 0.67 Mc to 25.0 Mc in 5 minutes, automatic operation.

Table 68

				101	JIE 00				
Kogai	kanal, In	dia (10.2	2º N,	77.5° E)			Fe	bruary 1958
Time	h'F2	foF2→(ount	h*F	foF1	h "E	foE	foEs	(M3000)F2
00 01		11.4 10.9	19 23	240 240					2.95
02		9.3	22	230					3.00 3.05
03		8.3	25	240					2.95
04 05		7.5 6.9	26 26	240 240					3.00 3.10
06		6.4	26	250					3.00
07 08		9.8 11.8	25 27	260 240		120 110	2.6	6.8 9.8	2.70 2.60
09		12.3	25	225		110		10.6	2.35
10		11.9	25	220		110		12.0	2,30
11 12		12.0 12.4	24 25	210 210		1 9 5 110		11.8 11.6	2.30 2.20
13		12.9	25	215		110	4.2	10.8	2,20
14 15		13.6 13.5	26 27	220 220		110 110	4.0 3.7	9.5 10.0	2.20 2.20
16		13.1	25	240		110		8.2	2.25
17 18		12.8	27	260		115		7.6	2.15
19		11.8 10.7	27 25	300 405					2.10 2.00
20		10.5	17	360					2.15
21 22		10.6 11.6	18 16	290 265					2.40 2.70
23		12.1	18	255					2.80

Time: 75.0°E. Sweep: 1.0 Mc to 25.0 Mc in 27 seconds.

Table 70

5 ingas	nore. Bri	itish <u>Mala</u>	ya (1.	3° N.	103.8° E)			Fe	bruary 1958
Time	h°F2	foF2-C		h°F	foF1	h*E	foE	foEs	(M3000)F2
00		10.3	27	240		120	1.00		2.55
01		10.0	26	255		105	1.00	<1.2	2,60
02		9.9	24	260		105	1.00		2,65
03		9.4	27	250		135		<1.0	2.80
04		8.1	27	250		135	1.15		2.90
05		6.6	25	245		120	1.10		2,95
06		6.2	27	255		130	1.20		2.80
07		9.1	25	260		130	2,60		2.90
- 08		11.0	20	245		115	3.30		2.70
09	470	11.2	28	230		110	3.75	3.9	2.35
10		(12.2)	28	215		110	4.05	4.2	2.05
11	1040	>12.4	26	210		110	4.25		2.05
12	345	12.6	27	205		105	4.30		2.00
13	440	12.6	28	205		105	4.25		2.05
14	500	12.8	28	210		105	4.05		2.05
15	505	13.3	25	230		105	3.90		2.05
16		13.8	26	245		110	3.50	4.0	2.10
17		13.8	26	255		110	3.00	3.4	2.15
18		(13.4)	24	295		130	2.00	3.4	2.10
19	l	12.9	17	360				3,2	2.00
20		>12.5	14	365		135		2.9	(2.05)
21		>12.4	12	310		130		2.2	
22		(11.5)	16	260				3.0	(2.40)
23		11.7	20	240		120		2.0	2,45

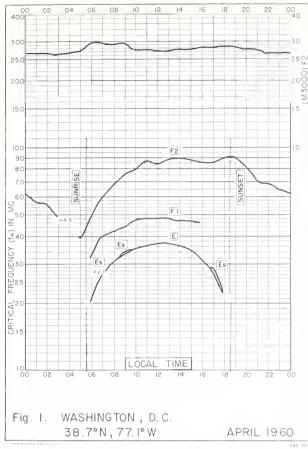
Time: 105.0°E. Sweep: 0.67 Mc to 25.0 Mc in 5 minutes, automatic operation.

Table 72

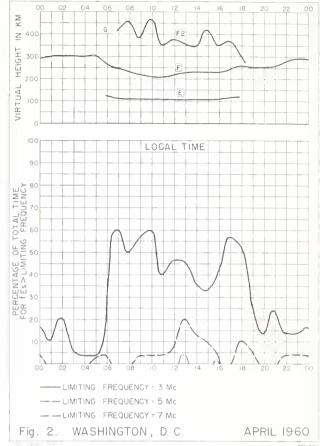
Alert	Canada	(82.5° N	, 62.7	w)				A	August 1957
Time	h°F2	foF2—	Count	h F	foF1	h *E	foE	fEs	(M3000)F2
00		5.5	22	260		120	2.2		
01		5.6	23	260		110	2.2		
02	(530)	5.3	24	240	3.6	105	2.3		
03	(400)	5.2	23	250	3.7	105	2.4		
04	(420)	5.5	23	240	3.9	105	2.5		
05	(400)	5.4	25	240	4.0	100	2.6		
06	400	5.5	25	240	4.2	100	2.7		
07	400	5.7	25	240	4.3	100	2.8		
- 08	440	5.6	25	230	4.4	100	2.8		
09	420	5.7	25	230	4.5	100	2.9		
10	470	5.6	22	230	4.3	100	3.0	3.5	
11	470	5.6	21	220	4.3	100	3.0		
12	400	5.6	20	210	4.4	100	3.0		
13	480	5.6	23	220	4.3	100	3.0		
14	410	5.8	22	240	4.3	100	2.9	4.0	
15	420	5.5	22	240	4.2	100	2.8		
16	400	5.7	23	240	4.2	105	2.8		
17	400	5.8	24	240	4.0	105	2.7		
18	380	5.5	23	250	3,9	100	2.6		
19	400	5.4	23	250	3.8	110	2.5		
20	(400)	5.4	22	270	3.7	110	2.4		
21	(430)	5.4	24	260	3.6	110	2.2		
22		5.6	24	250	(3.5)	110	2,2		
23	(440)	5.4	22	260	3,6	110	2.1		

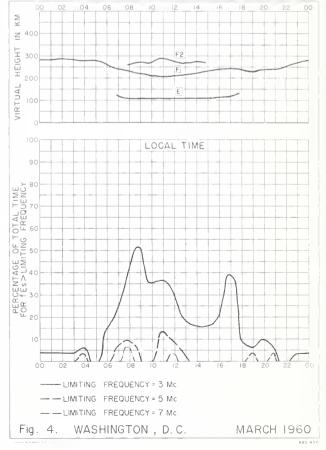
Time: 75.0°W. Sweep: 1.6 Mc to 20.0 Mc in 15 seconds.

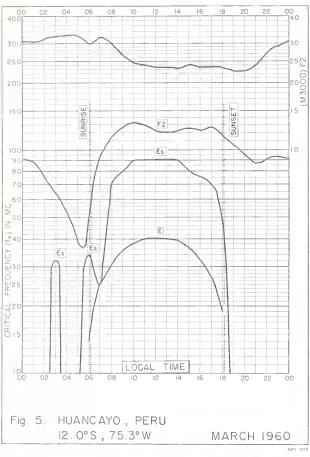
USCOMM-NBS-8L



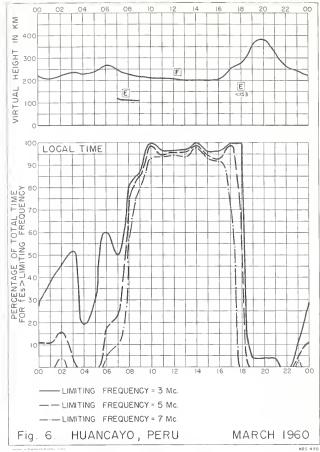


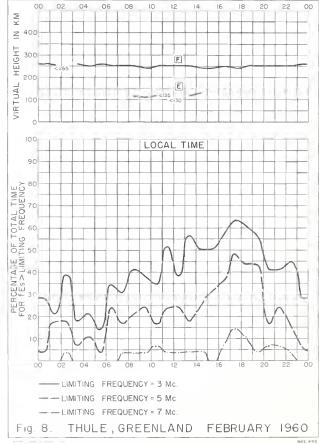


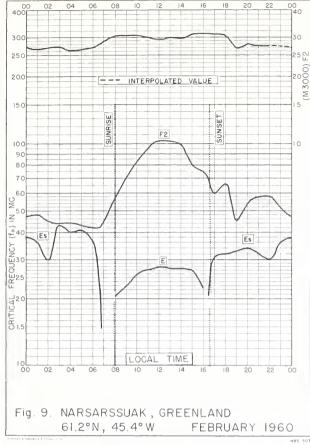


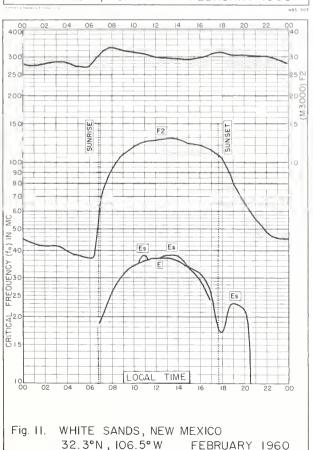


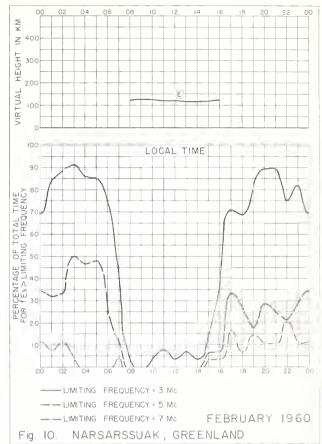


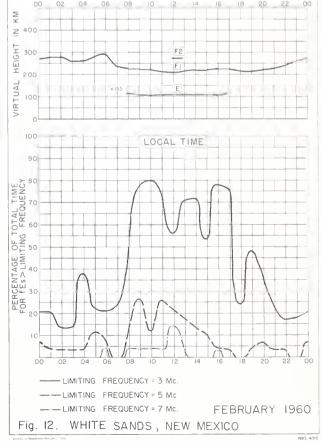


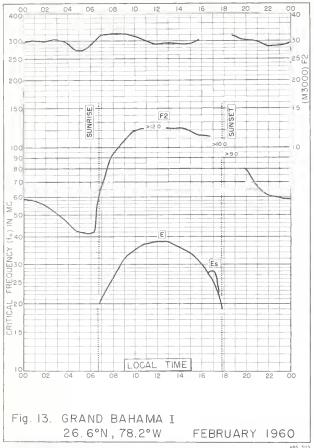


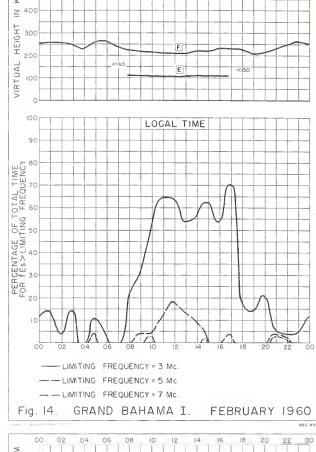


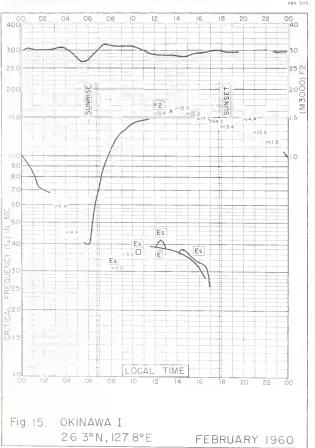


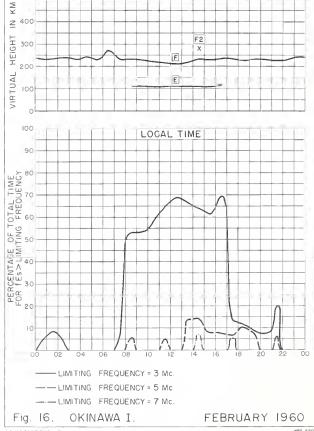


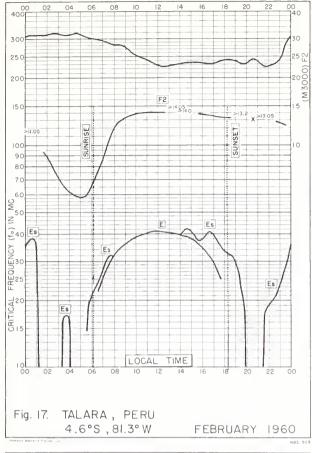




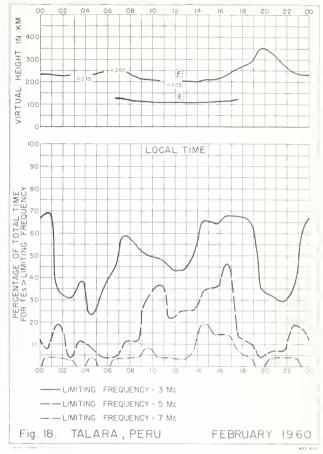


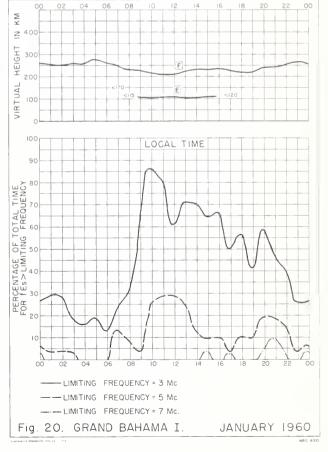


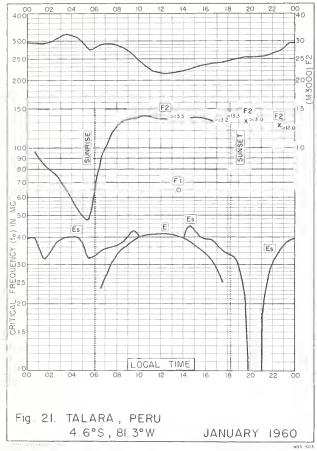


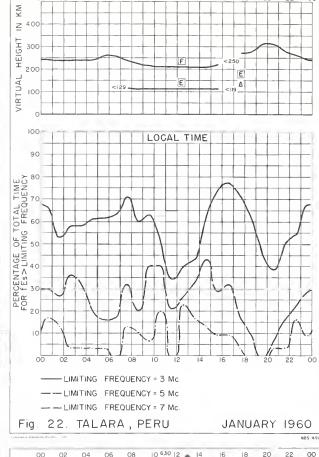


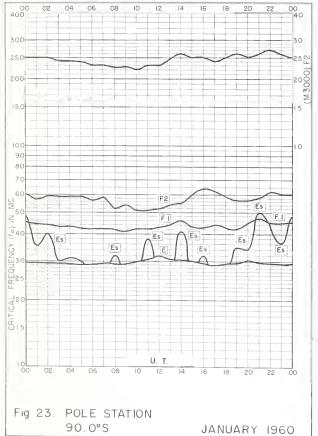


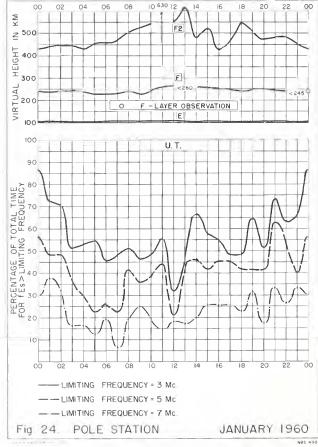


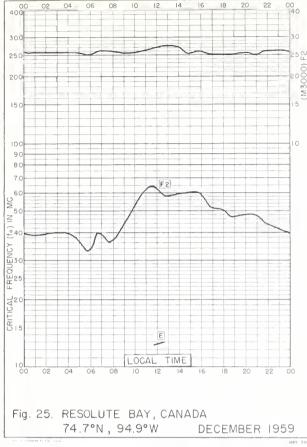


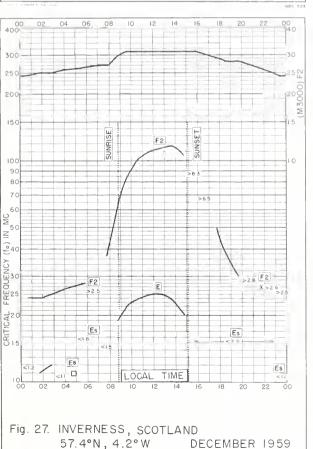


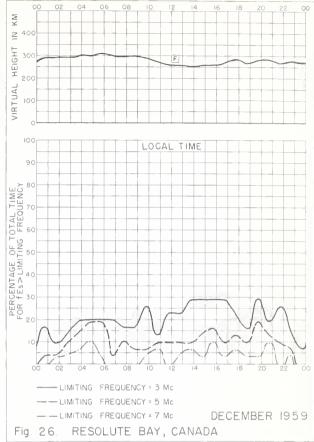


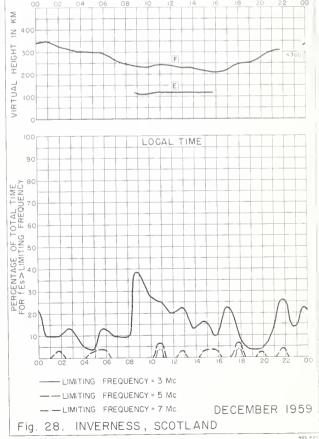


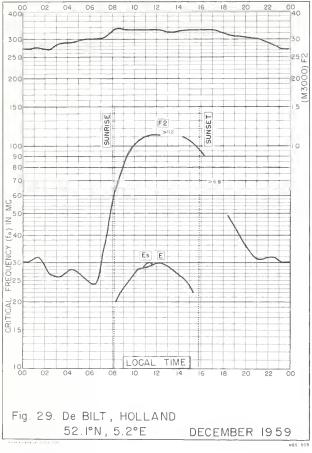


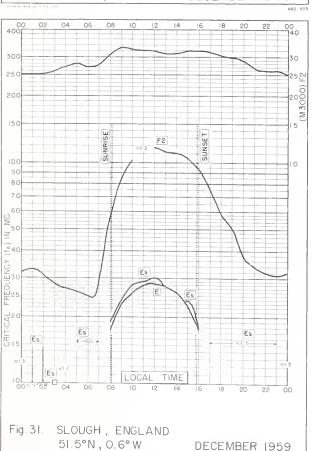


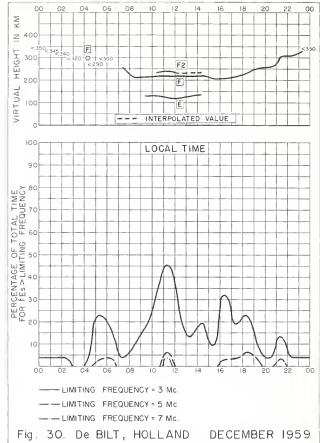


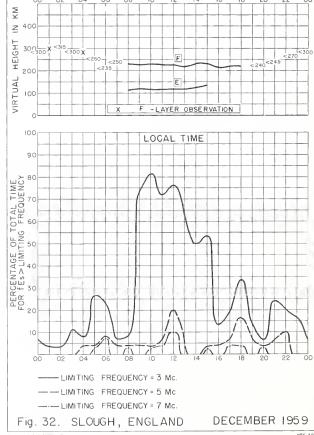


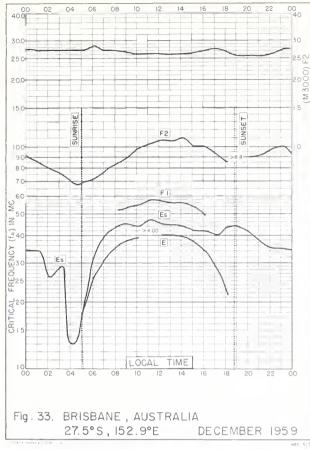


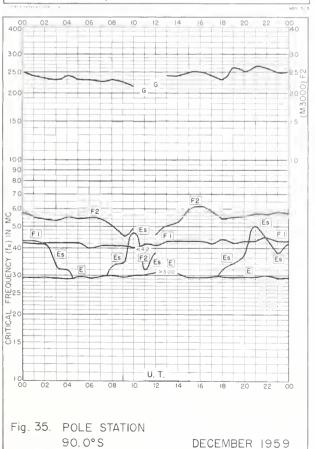


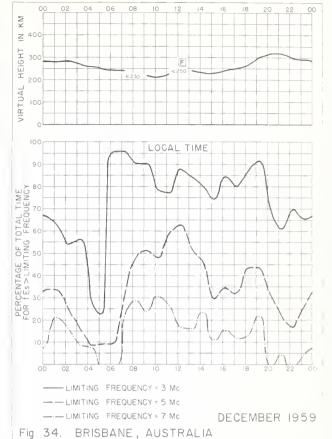


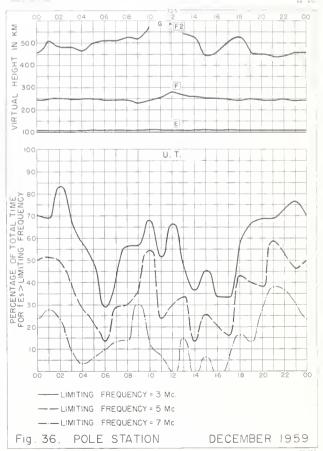


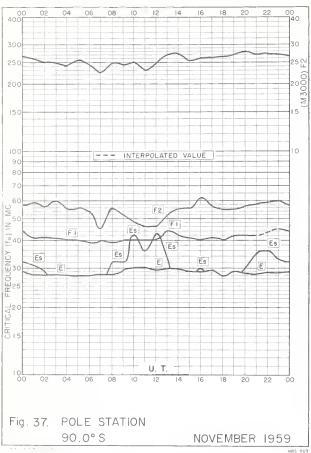


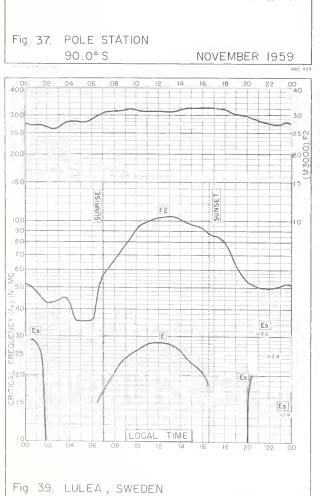






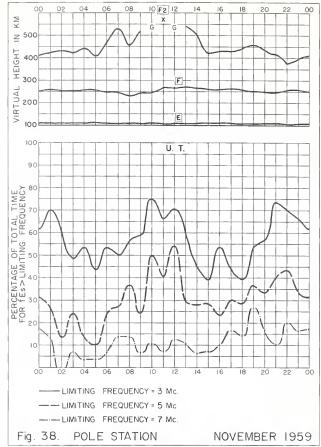


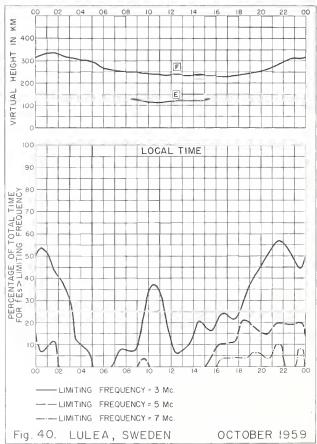


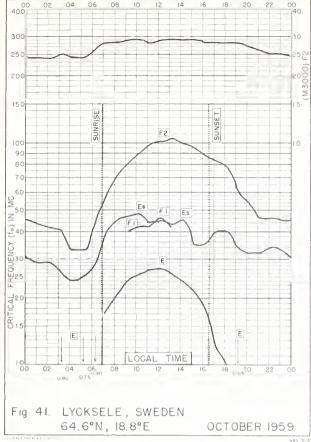


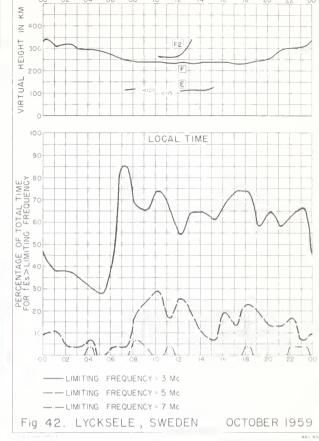
65.6°N, 22.1°E

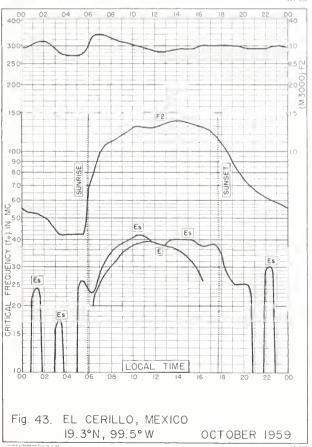
OCTOBER 1959

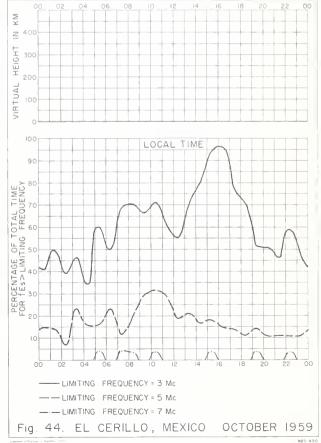


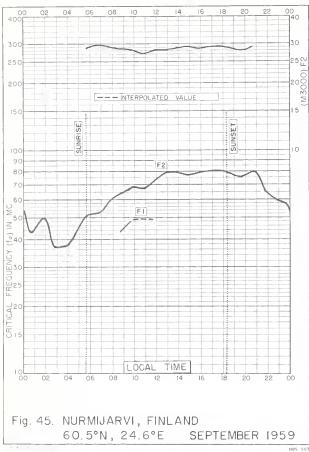


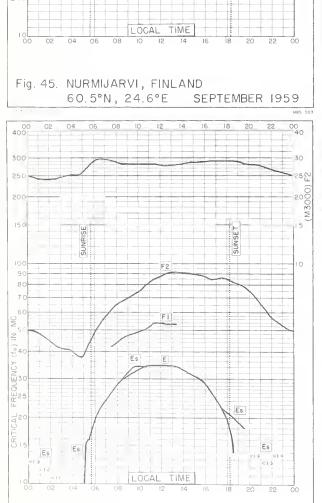




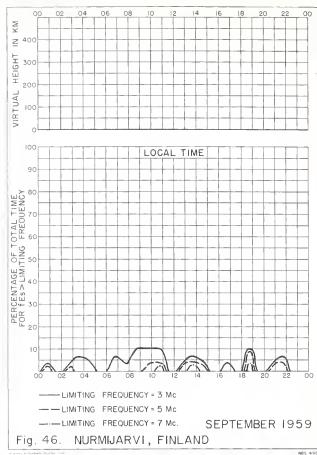


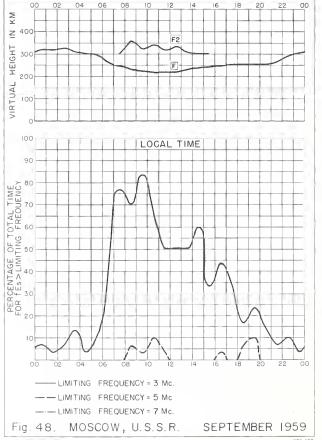


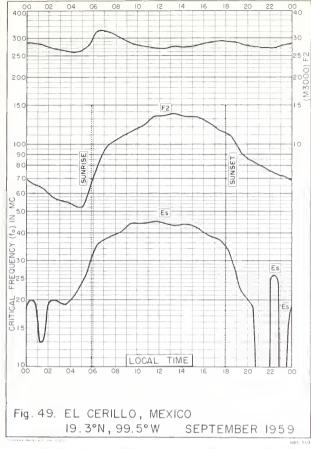


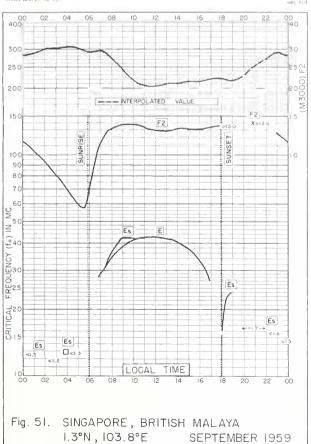


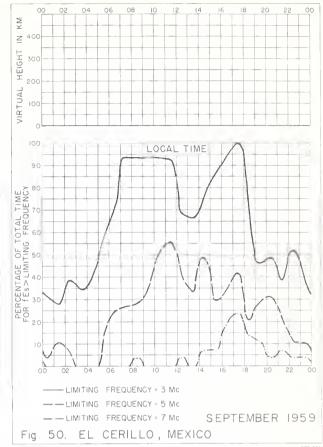


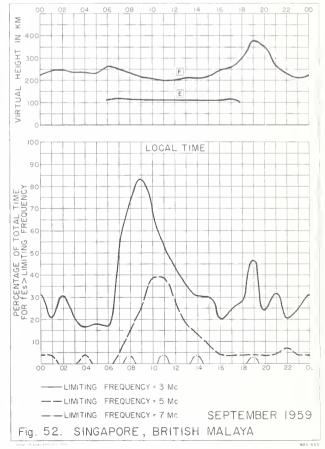


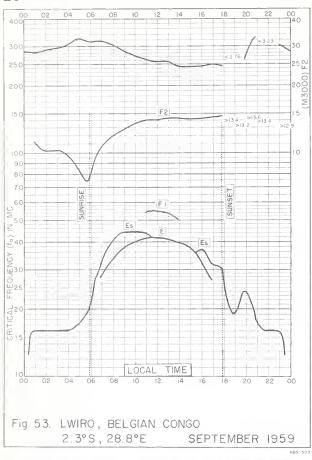


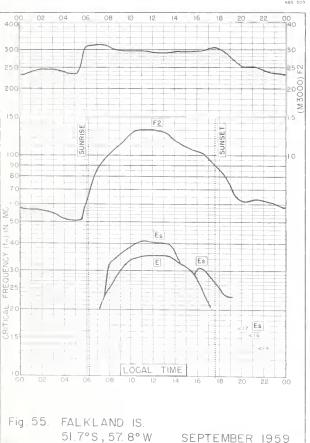


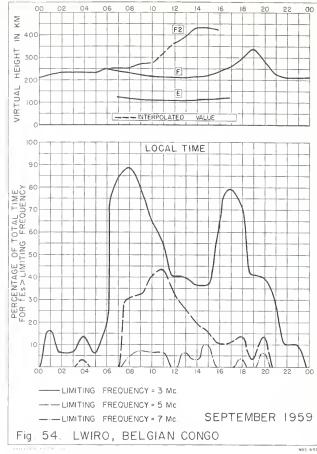


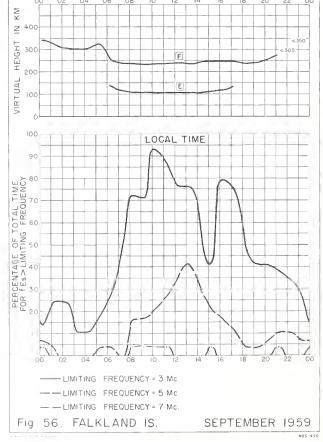


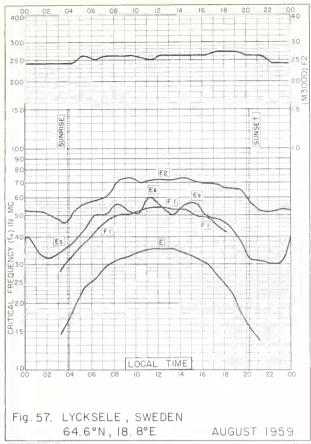


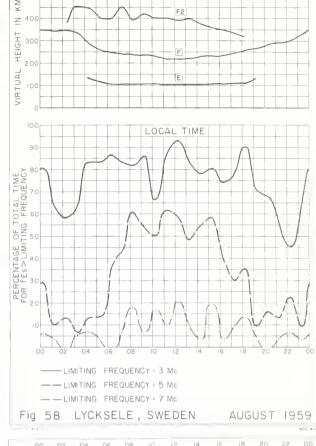


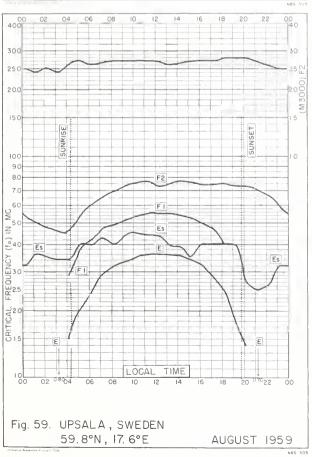


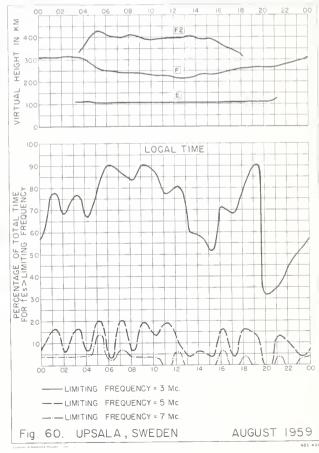


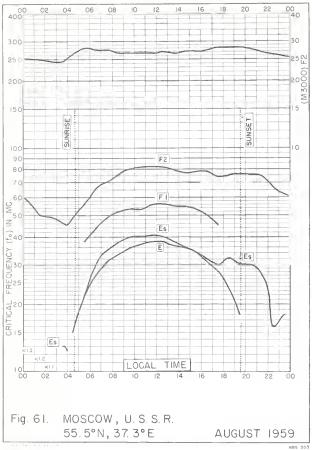


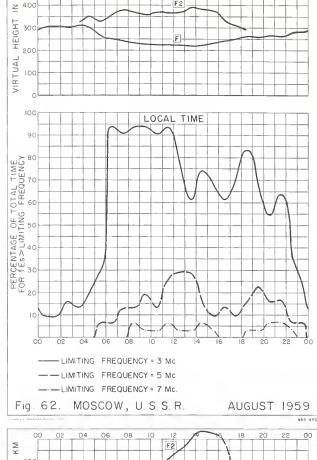


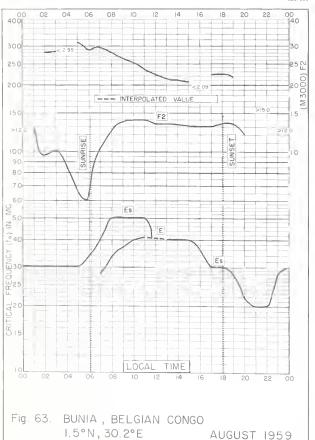


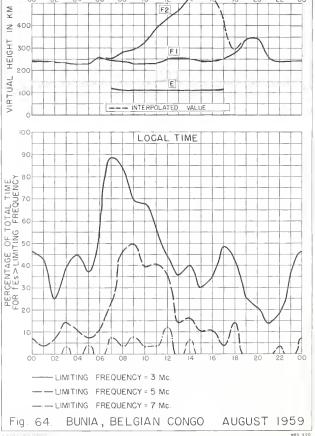


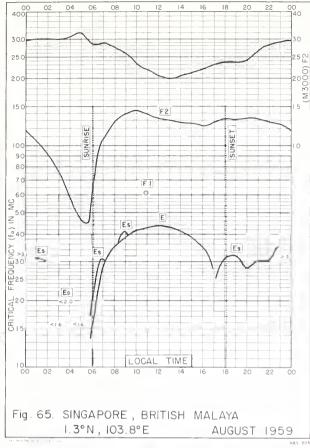


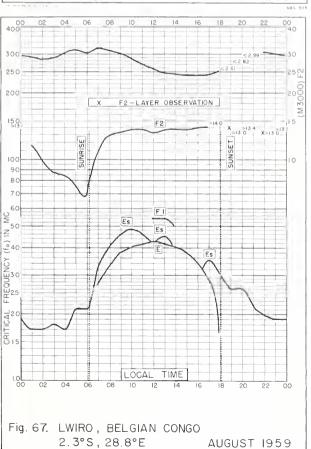


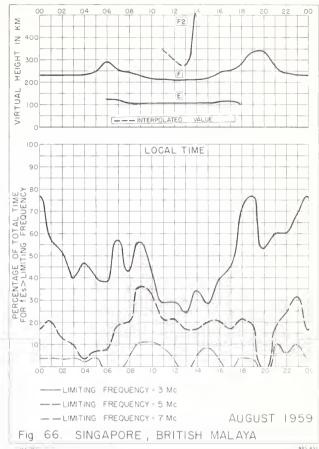


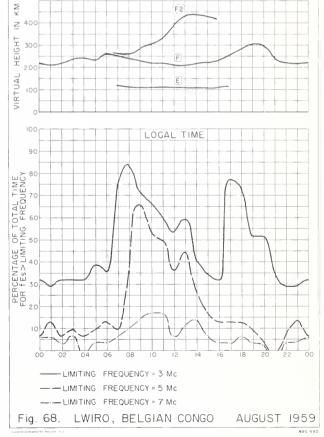


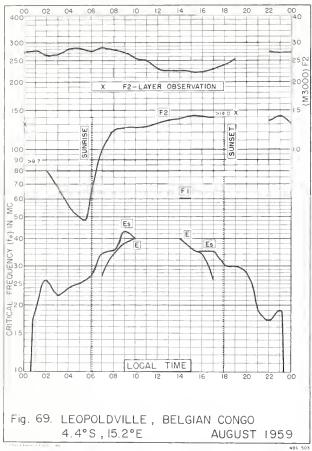


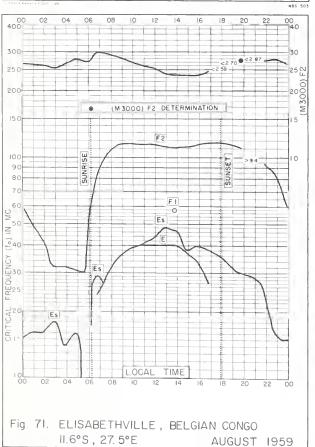


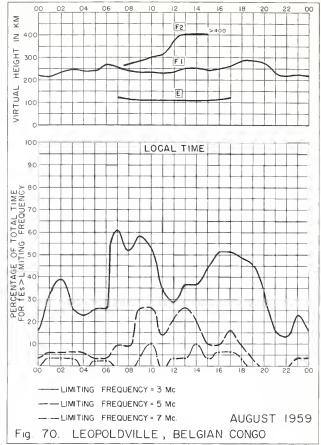


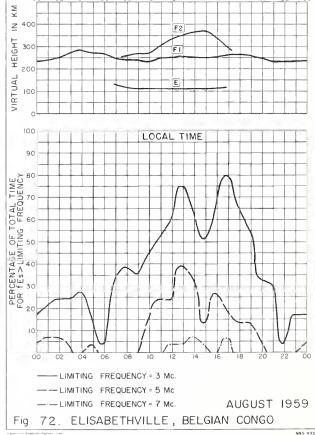


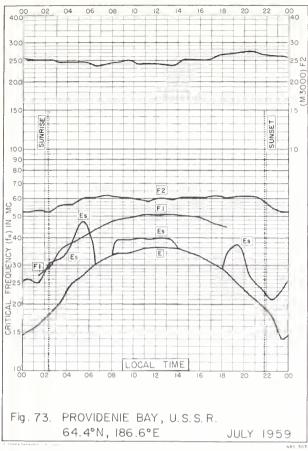


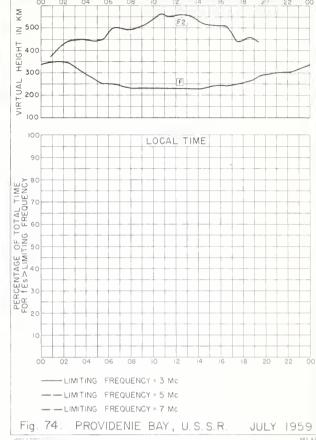


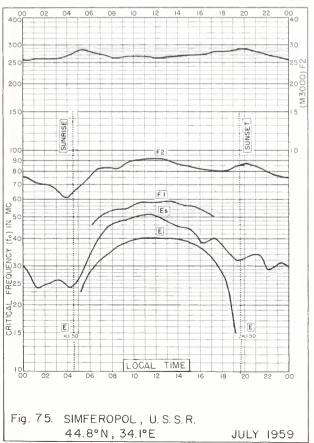


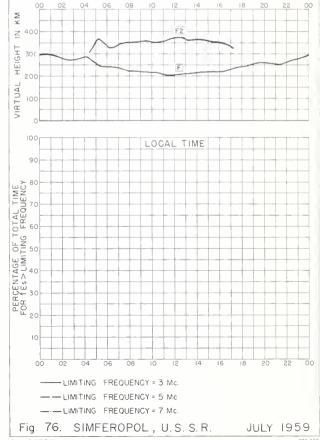


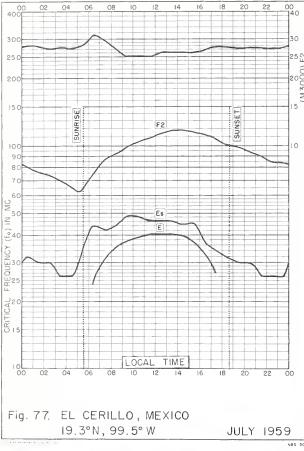


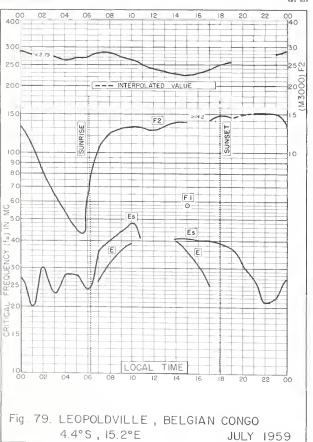


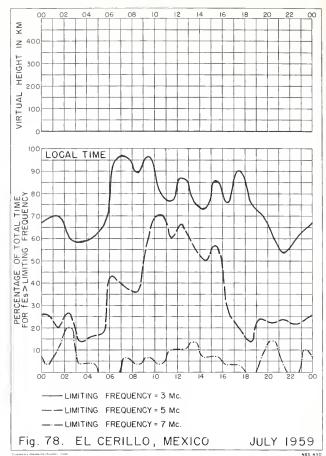


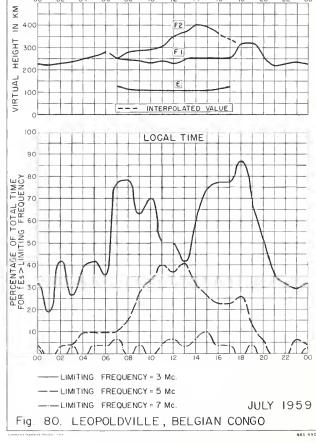


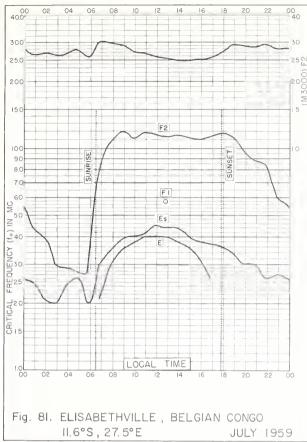


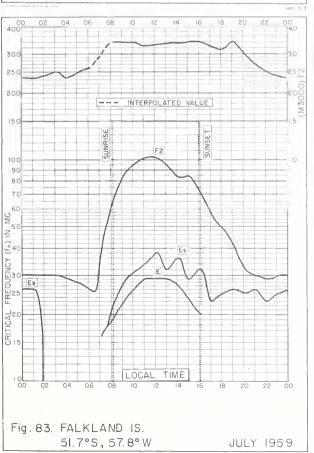


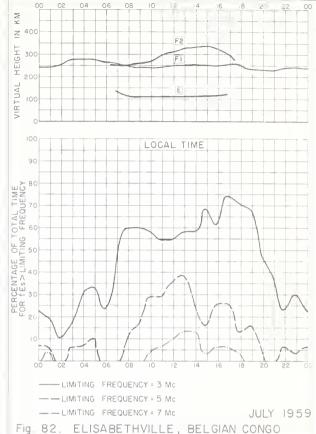


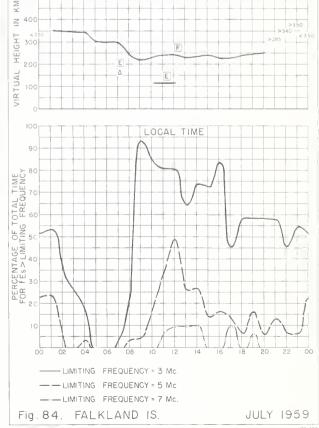


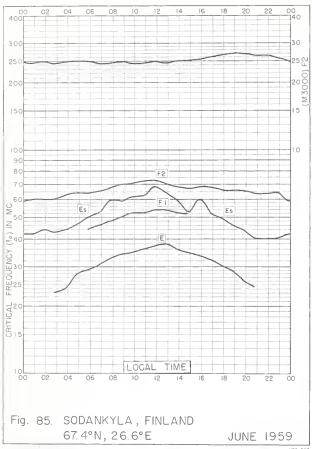


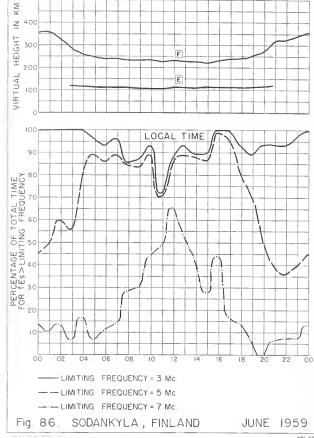


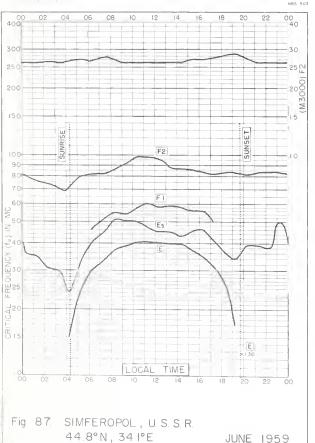


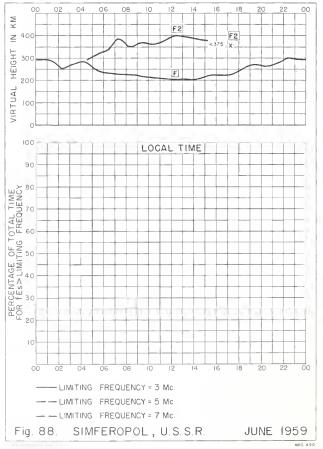


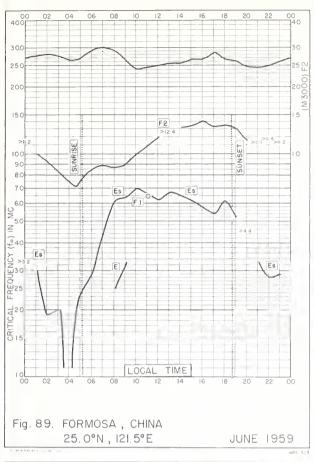


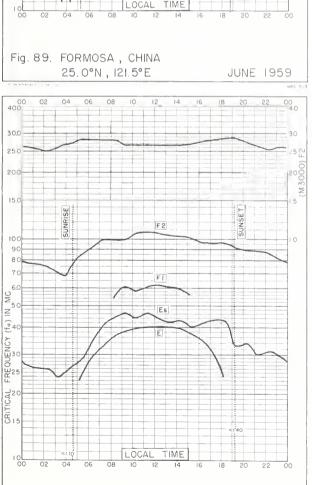






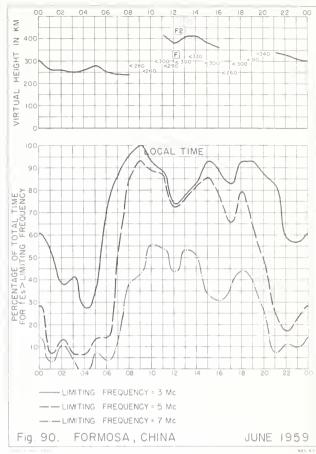


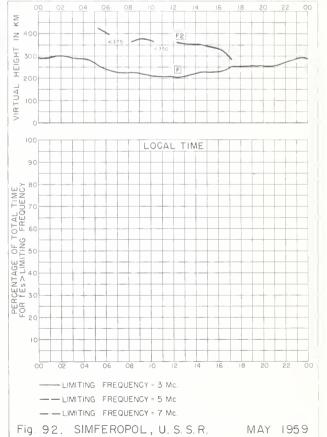


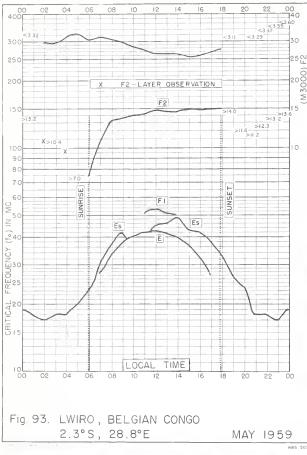


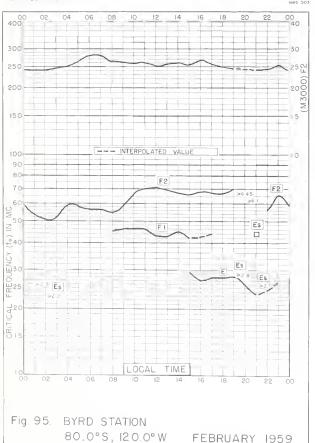


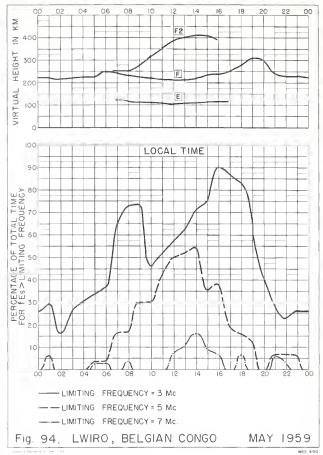
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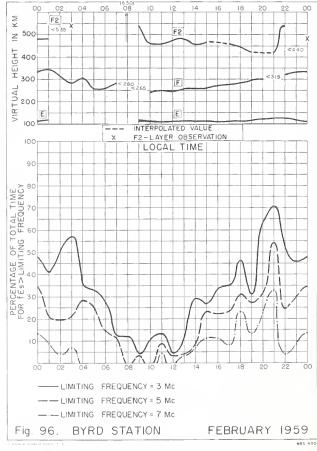


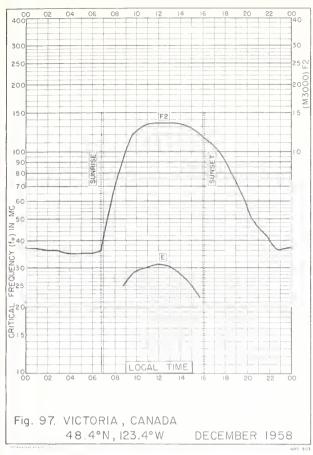


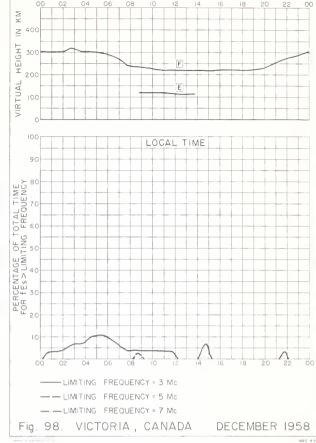


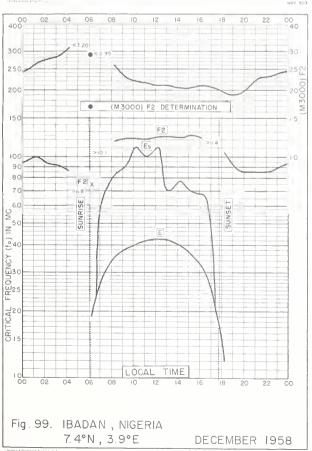


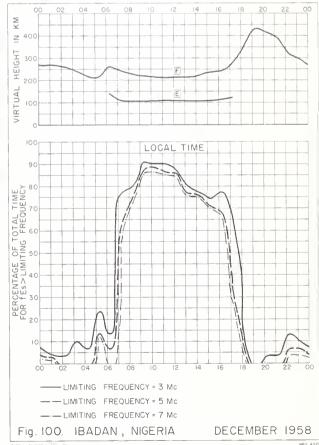


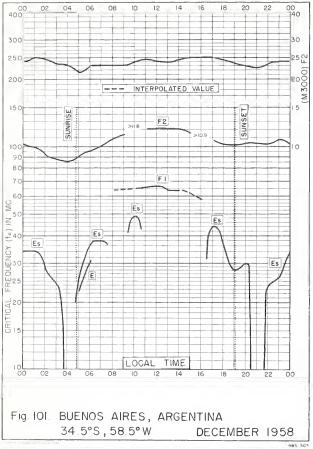


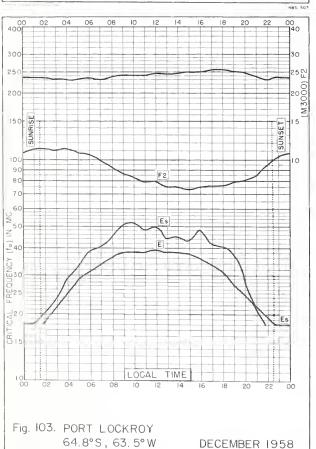


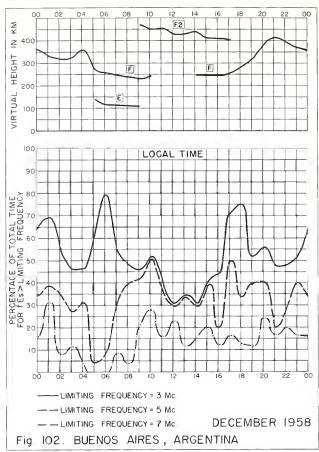


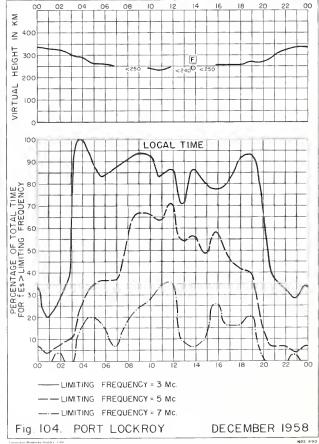


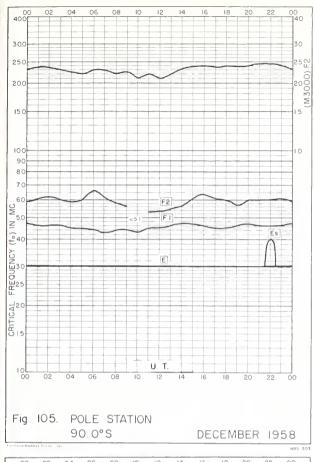


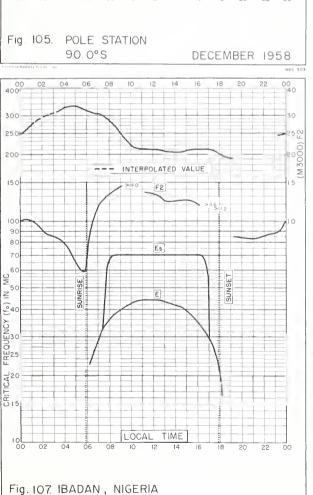




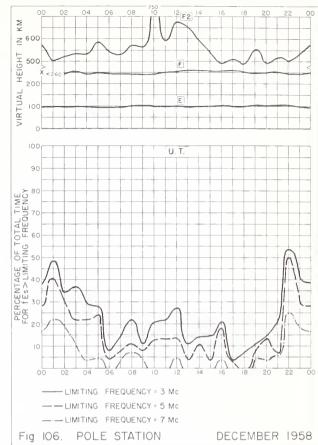


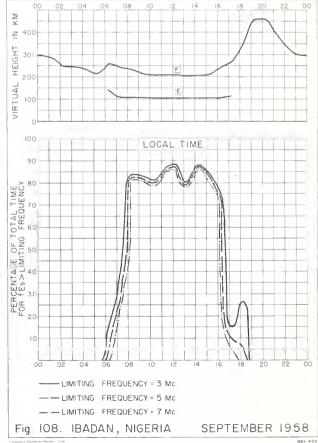




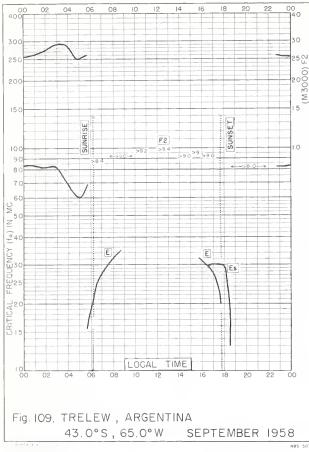


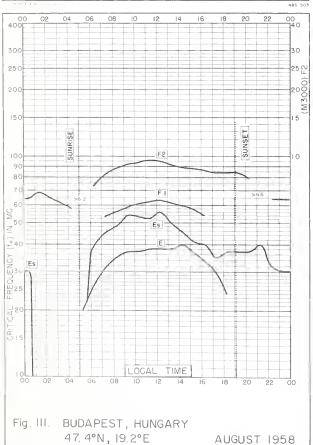
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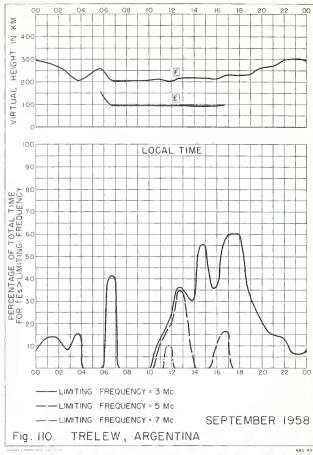


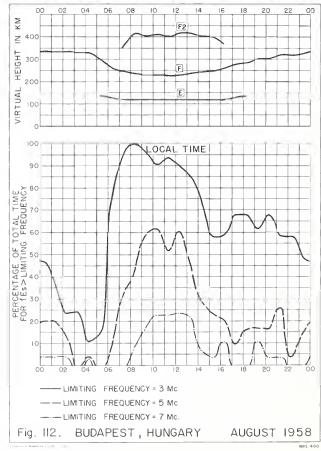


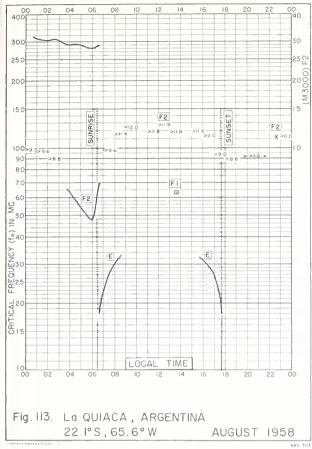
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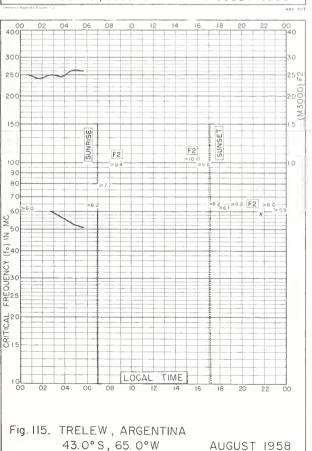


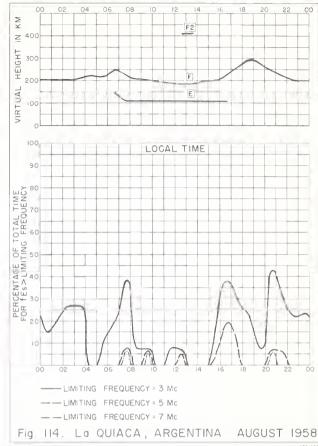


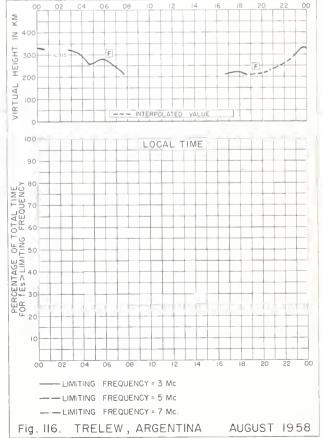


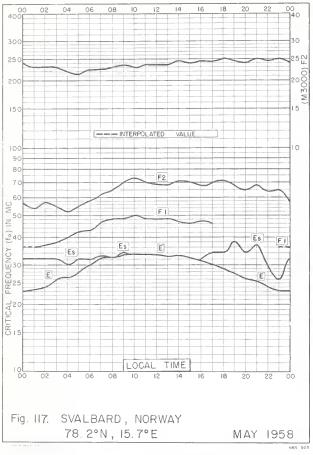


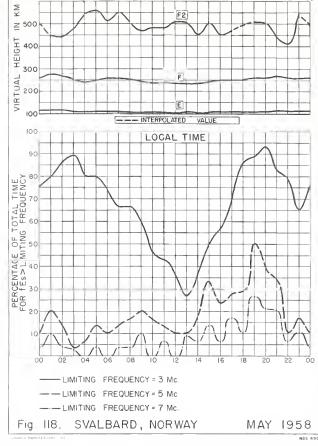


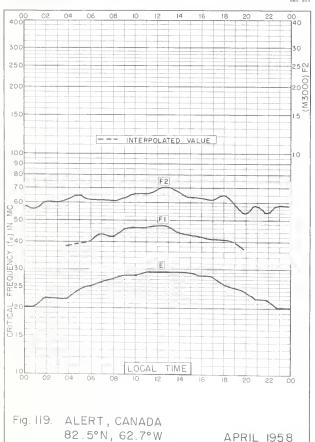


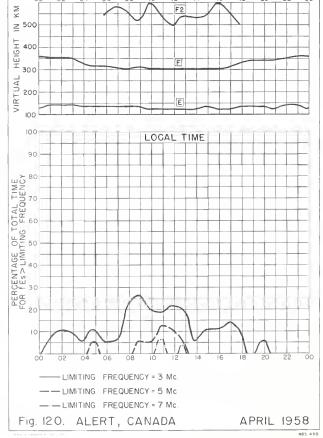


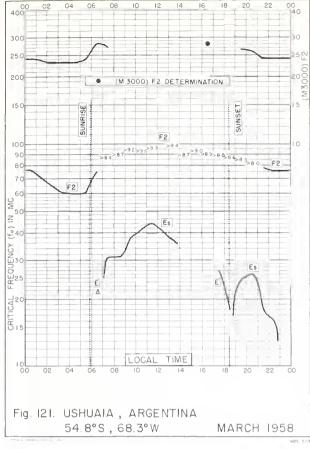


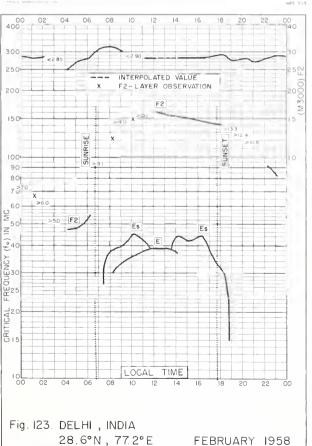


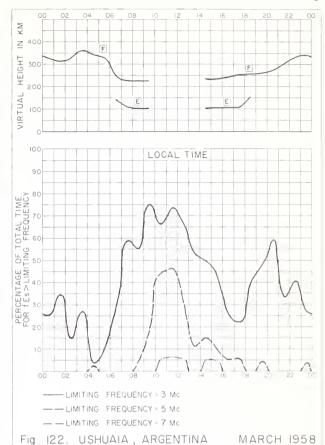


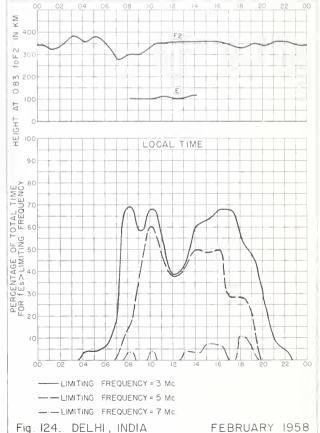


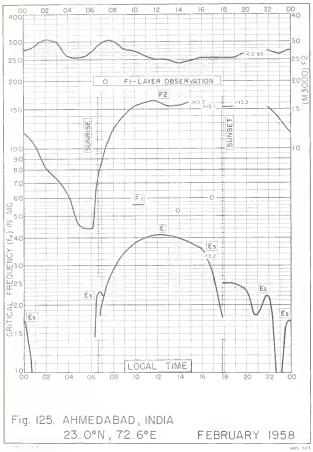


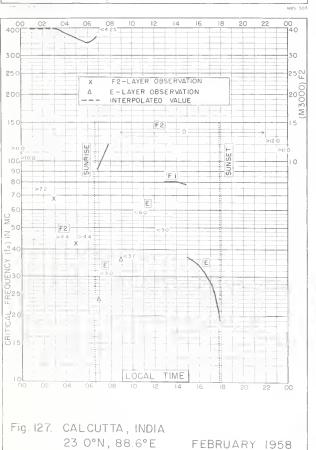


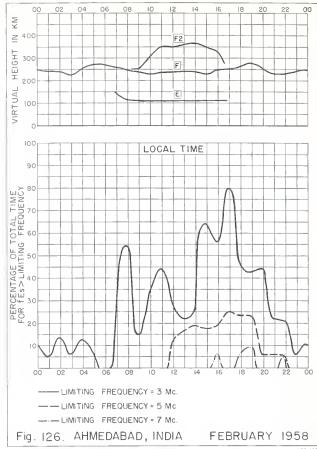


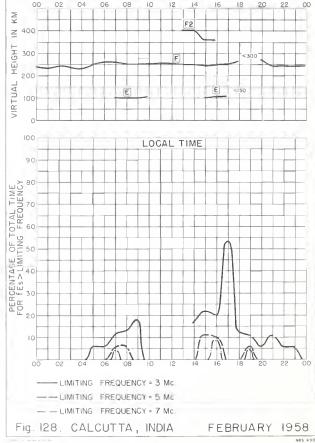


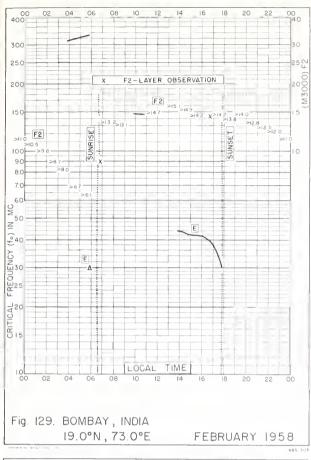




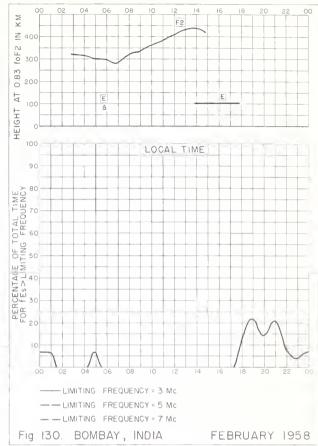


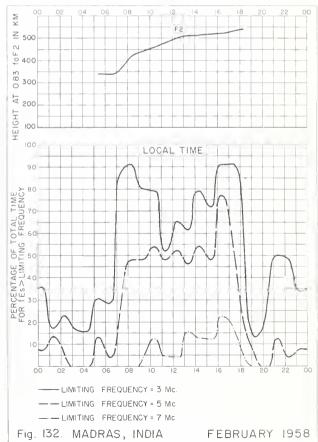


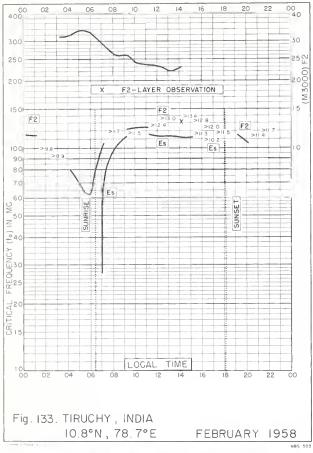


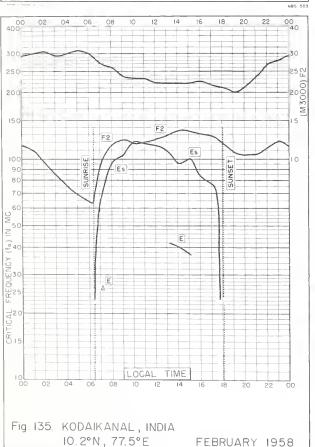


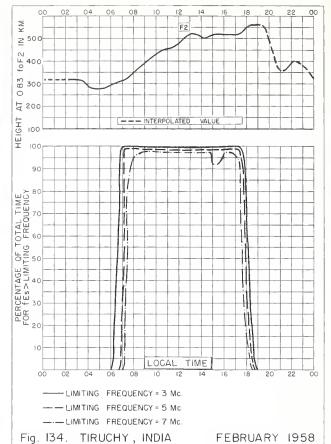


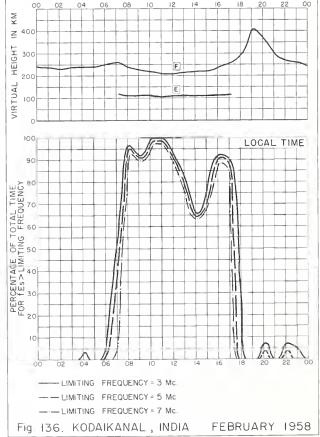


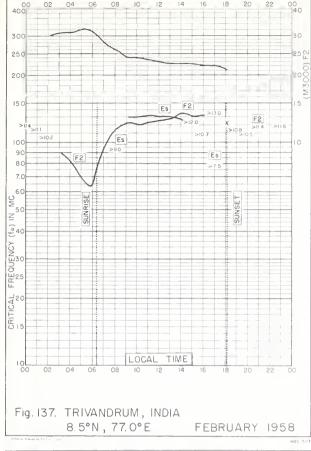


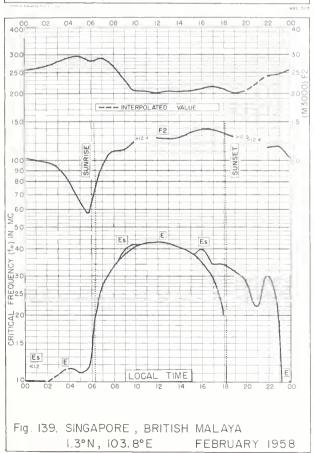


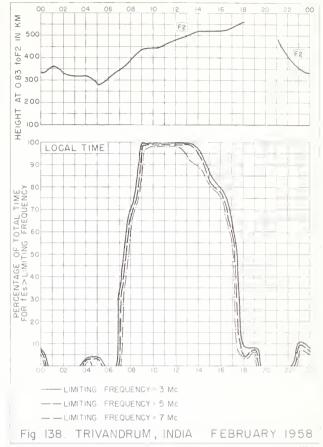


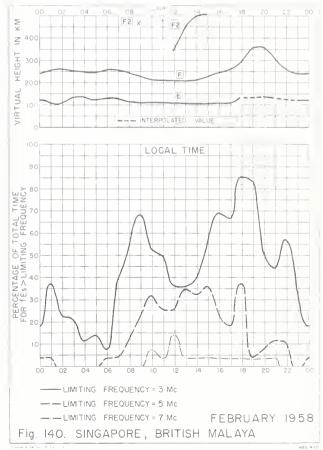


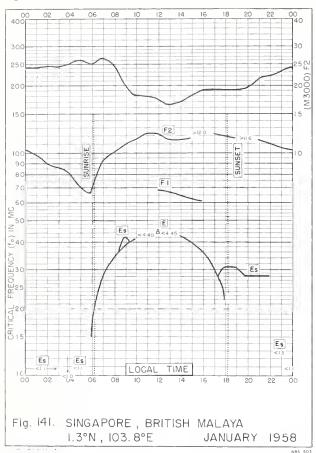


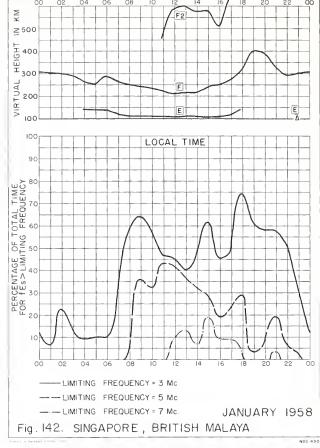


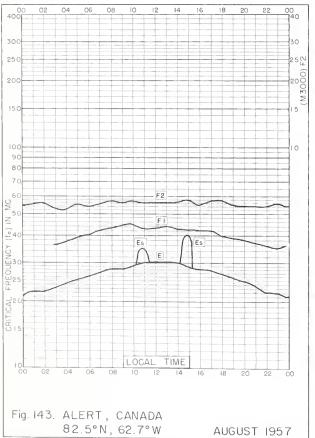


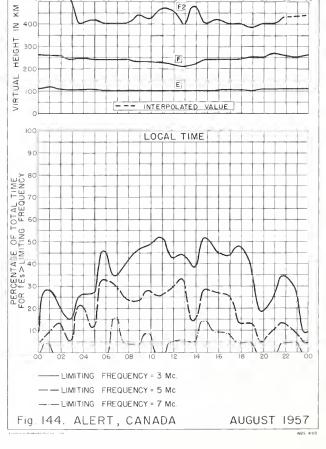












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CRPL Reports

[A detailed list of CRPL publications is available from the Central Radio Propagation Laboratory upon request] Daily:

Radio disturbance forecasts, every half hour from broadcast stations WWV and WWVH of the National Bureau of Standards.

Telephoned and telegraphed reports of ionospheric, solar, geomagnetic, and radio propagation data.

Semiweekly:

CRPL-J. North Atlantic Radio Propagation Forecast (of days most likely to be disturbed during following month).

North Pacific Radio Propagation Forecast (of days most likely to be disturbed during following CRPL—Jp. month).

Semimonthly:

Semimonthly Frequency Revision Factors For CRPL Basic Radio Propagation Prediction Reports. CRPL-Ja.

Monthly: CRPL--D

Basic Radio Propagation Predictions-Three months in advance. (Dept. of the Army, TB 11-499-, monthly supplements to TM 11-499; Dept. of the Air Force, TO 31-3-28 series). On sale by Superintendent of Documents.* Members of the Armed Forces should address cognizant military office.

CRPL-F. (Part A). Ionospheric Data.

(Part B). Solar-Geophysical Data.

Limited distribution. These publications are in general disseminated only to those individuals or scientific organizations which collaborate in the exchange of ionospheric, solar, geomagnetic, or other radio propagation data.

Catalog of Data:

A catalog of records and data on file at the U. S. IGY World Data Center A for Airglow and Ionosphere, Boulder Laboratories, National Bureau of Standards, which includes a fee schedule to cover the cost of supplying copies, is available upon request.

The publications listed above may be obtained without charge from the Central Radio Propagation Laboratory, National Bureau of Standards, Boulder Laboratories, Boulder, Colorado, unless otherwise indicated. Please note that the F series is not generally available.

Circulars of the National Bureau of Standards pertaining to Radio Sky Wave Transmission:

NBS Circular 462. Ionospheric Radio Propagation. \$1.25.

NBS Circular 465. Instructions for the Use of Basic Radio Propagation Predictions, 30 cents.

NBS Circular 557. Worldwide Radio Noise Levels Expected in the Frequency Band 10 Kilocycles to 100 Megacycles. 30 cents.

NBS Circular 582. Worldwide Occurrence of Sporadic E. \$3.25.

> These Circulars are on sale by the Superintendent of Documents, U. S. Government Printing Office, Washington 25, D. C. Members of the Armed Forces should address the respective military office having cognizance of radio wave propagation.

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